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ERRATA.

p. 61, line 32, delete "all the."

p. 62, „ 12, „ "Book of Geneva."

p. 63, „ 8, after "minister" insert "of Stirling."

p. 64, „ 3, „ "Morphie" „ "or Earl of Montrose."

p. 67, „ 38, „ "Assembly" „ "haldin at Glasgow."

p. 77, „ 30, for "Stiriling" read "Striviling."

p. 82, „ 25, „ "leétit" „ "lectil."

p. 82, „ 32, „ "Brentins" „ "Brentius."

p. 83, „ 9, „ "contract" „ "contrast."

p. 88, „ 46, „ "Mr" „ "Wm."

p. 91, „ 2 from bottom, for "1582" read "1581 (2)."

p. 95, „ 18, for "1562" read "1582."

p. 96, „ 12, „ "Davie" „ "Durie."

p. 99, „ 28, „ "Chryssone" read "Chrystosone."

p. 99, „ 28, „ "score" read "serve."

p. 100, last line, delete "Mr"

p. 102, line 24, before "The" insert "Almost."

p. 103, „ 13, add "M'Crie, Lives of Knox and Melville."

Add the following note on p. 102: — "One or two similar minutes, including among others the account of the discipline exercised towards the Countess of Menteath for harbouring Montgomery's wife are omitted for brevity's sake."

STIRLING NATURAL HISTORY AND ARCHÆOLOGICAL SOCIETY.

The annual meeting of the Society was held in the Y.M.C.A. Rooms, on Tuesday evening, 18th October—Rev. W. F. Goldie, president, in the chair. The minutes of previous meeting having been read and sustained, the Secretaries' and Treasurer's reports were read and approved of. The office-bearers for the ensuing year were then elected as follows:—Honorary presidents, Colonel Murray of Polmaise and Colonel Stirling of Gargunnock; president, Rev. W. F. Goldie; vice-presidents, Mr J. A. Harvie Brown and Dr Galbraith; joint secretaries, Mr Robert Kidston and Mr David B. Morris; treasurer, Mr Daniel Ferguson; librarian, Mr James Sword; auditor, Mr John Allan. Members of council—Rev. J. E. H. Thomson, Messrs Lowson, M'Lellan, Sinclair, Campbell, and Ronald.

SECRETARIES' ANNUAL REPORT.

The past year has been characterised by steady work on the part of the Society. Some progress has now been made towards realising the ideal conceived when the Society was formed, namely, the complete working out of the natural history and archæology of the district. The contributions made by members during last session have gone a good way towards that end. In the botanical section, the labours of Col. Stirling and Mr Kidston have resulted in the publication of the lists of the botanical county of Stirling, divided, geologically, into four districts. In the conchological section, Mr M'Lellan has made a very good beginning towards the working out of the land and fresh water shells of the district, and doubtless we shall have further reports from him as to the progress of the work. In the department of archæology, Mr Lowson's valuable paper on the Roman Wall of Antoninus Pius practically finishes that subject, while the papers by Treasurer Ronald and Mr Shirra on the ancient history of the Burgh of Stirling are among the most generally interesting as well as valuable parts of the Society's work. Several short papers on interesting subjects were also read. The transactions for 1890-91 were pub-

lished at the close of last year, and the volume for 1891-92 was published during the past summer. It was considered by the Council that it would be a better arrangement to make the published volume of transactions coincide exactly with the session's work, and start the new volume with the annual business meeting. This enables members to have the papers read during the previous winter in their hands for use in the summer months. No organised excursions of the Society have taken place this year but several private excursions of members in connection with different subjects of investgation have been held. The only public action taken by the Society during the past year was the sending of a memorial to the War Department praying for the preservation and restoration, so far as possible, of the ancient buildings of Stirling Castle. Mr Campbell-Bannerman has written in reply that he is entirely in accord with the Society in wishing to see all the interesting parts of the buildings preserved, and, if practicable, restored, and he proposes shortly to visit the Castle in order to see how far the War Department can co-operate in any effort made with that object. The Council also invited the Archæological Society of Glasgow and the Society of Antiquaries of Scotland, Edinburgh, to co-operate with them, and the Secretaries of these Societies have promised to bring the matter before their respective Councils. It is hoped that the steps taken, together with the action of the Stirling Town Council and the influence of the public newspapers, will cause something to be done to preserve these valuable ancient buildings. The local collection which is lodged in the Smith Institute, is slowly progressing. In addition to specimens kindly lent for exhibition, 67 geological specimens have been registered and are now exhibited. Two new cases have been purchased, and the collection is at present being re-arranged by Mr Kidston. Mr M'Lellan has kindly promised a set of the land and fresh water shells of the county. The Council have to acknowledge their thanks to Mrs Dalrymple Duncan of Meiklewood for the better preserved remains of the Meiklewood whale which were still in her possession. These are now in the Smith Institute. The retiring members of Council are Messrs A. F. Hutchison and W. L. Shirra, and Mr J. W. Campbell and Treasurer Ronald are recommended for the vacancy.

The following is an abstract of Treasurer's accounts for year ending 18th October, 1892 :—

INCOME.

Balance from last account.....	£1	3	10
Annual subscriptions received	15	2	0
Transactions sold.....	2	7	8
Bank interest to 1st Nov. last.....	0	0	2
	£18	13	8

EXPENDITURE.

Paid printing.....	£10	9	6
Paid rent of room for meeting.....	0	18	0
Postages.....	0	2	0
Balance at credit of Society in National Bank.....	7	4	2
	£18	13	8

Dr Galbraith, one of the vice-presidents, delivered the annual address, his subject being entitled,

"AN OLD CHURCH MINUTE BOOK."

The book, a thin folio of about 100 leaves of rather rough paper, somewhat slightly bound, is the first minute book of the Episcopal congregation in Stirling. Although it dates back to nearly a century ago, when in 1872 it came into my custody as Clerk of the Vestry only about two-thirds of it had been filled up, so few in the earlier days of the history of the congregation had been the meetings held for the management of its affairs. In connection chiefly with proceedings necessitated by the building of the present new church the remainder of the minute book was used up within four years after I got possession of it. The date of the first entry, which is 20th February, 1798, might be taken as that when the book began to be used; but on scrutinising the second leaf, which with one or two others is unwritten on, it is seen to bear this water mark, "Fellows, 1808." This so far settles the date of the book, and the earlier minutes must have been copied either from some other book temporarily used, or from loose sheets on which they had been first written. It is matter of history that the Scottish Episcopalians were in their political opinions mostly Jacobites, favouring the claims of the exiled Stuarts to the crown. Naturally many of them took an active part in the risings of 1715 and 1745; and in 1748, apparently as a retaliatory measure, the Government caused an Act to be passed, commonly called the Penal Laws, whereby the assembling of more than five persons, in addition to the officiating clergyman's own family, to participate in the performance of divine worship according to the Episcopalian ritual, was made penal. It is said, however, that this prohibition was ingeniously cir-

cumvented by the device of partitioning off an apartment, according to its capacity, into so many divisions, each capable of holding, but no doubt with very little elbow room to spare, the legal number, by wooden panels fitted with small windows, so that the officiating clergyman was able to read the service to a much more numerous congregation than the law contemplated without bringing himself under its censure. In other cases the minister is said to have stood in the passage of a house, and addressed several groups of five persons, each group occupying a room opening off the lobby. So difficult is it to enforce laws that aim at repressing actions which the doers regard as matters of conscience, particularly where religious feelings are concerned. The Episcopalians in Stirling, having then no consecrated place of worship, were in the habit of meeting for divine service in this evasive way. I learn from the Rev. Mr Coldwell, our present rector, that an old member of his congregation, who died within the last few years, told him he remembered a large room in a house in Broad Street that had been used for this purpose. He described the apartment as being about 30 feet in length, divided into five compartments, each to hold four or five persons, by partitions fitted with sashes to establish the necessary connection with the officiating clergyman. The house indicated by Mr Coldwell's informant is about the centre of the north side of the street, bearing over a lower window the motto "*Nisi Dominus Frustra.*" I know this house well, for it was in apartments on the first floor that I attended a school where Greek and Latin were taught, first by Mr Warden, and on his death by Mr Rankine. The ground floor was then, as now, occupied by a shop, but with some altered arrangements, for what is now a window, was in my day a doorway, giving admission to a stair, by which access was obtained to the first floor. I suppose that "the upper-rooms' thus used as a church occupied the space of this first floor, where the school was afterwards kept. In a memoir of Bishop Gleig by the Rev. Wm. Walker, Monymusk, a letter is quoted from the Trinity Church Magazine, wherein the writer informs Mr Wilson, our then Incumbent, that before Bishop Gleig's time a room in a house situated in Spittal Street, was used as a place of meeting. The house is described as one with a circular staircase or turret in front, and situated near the Flesh Market. The site of the market is now occupied by the High School Yard. A building with a circular staircase,

and in olden time tenanted by Bailie Dow, as described, still stands in the immediate vicinity, being that immediately above the house, which according to the notice affixed on it, with its device of a pair of scissors, belonged to Robert Spittal, taylor to James IV. The writer of the memoir, for want o' local knowledge confounds this house with the one in Broad Street. It is said that there were two Episcopal congregations in Stirling, one tolerated by Government that met in Spittal Street, the other non-juring, which used the place of meeting in Broad Street. It is understood that the two congregations became united under Bishop Gleig.

On the repeal of the Penal Laws in 1792 the Episcopalians in Stirling set themselves to building a church, or "Chapel," as it was humbly called. The first entry in the Minute Book has reference to this action on their part, being the copy of a Deed of Conveyance dated 20th February 1798, whereby Dr Walter Stirling dispones to certain members of the Episcopal congregation in Stirling, a piece of ground which he had in the year 1794 agreed to give for the purpose of building "a chapel or house of worship, which building they had since compleated"—and enclosed from the street by a wall. Until very recent times the Episcopal Church was commonly designated "The Chapel." The members of the congregations named in the Deed of Conveyance are James Stirling, John Stirling of Kippendavie, Dr Robert Moir of Leckie, and John Wilson of Murrayshall, along with the minister of the congregation, the Rev. Dr George Gleig.

The piece of ground so conveyed is described as "going, as is supposed, by the name of Fryarscarse," "lying within the territory and on the north side of the burgh of Stirling, and bounded on the east by the common street, on the north by the close between my house and the said chapel, on the west by a sunk fence erected by them betwixt my garden and the said chapel, on the south by the garden belonging to John Glas, merchant in Stirling." The name "Fryars' Carse" no doubt indicates that the ground so called had been formerly a possession of the Dominican Monastery which it is understood was situated near the lower end of Fryars' Wynd, now with more than doubtful good taste changed to Friar "Street." I learn from Treasurer Ronald, who has with such industry, and intelligence, explored the old municipal records, that the designation Fryars' Carse applied to a considerable extent of the ground in this neighbourhood, including that

portion of it now occupied by Princes Street. The precise site of the monastery is uncertain, but in digging for the foundation of the National Bank and adjacent buildings it is said that many human bones were unearthed, indicative of a place of burial attached to it. A circumstance of interest connected with this Monastery of Black Friars is the tradition that beside the altar of the Monastery Church was buried the person who claimed to be Richard II. of England, asserting that instead of having been murdered in Pontefract Castle, as was given out and generally believed, he had effected his escape thence, and made his way to Scotland. This pseudo, or real, Richard II. was for some years entertained at the Court of James I where he was accorded the status of the dignity he claimed. He died at Stirling, most probably in the Castle, in 1428. The monastery was destroyed in 1559 by the followers of the Lords of the Congregation to prevent the Queen Regent placing in it a garrison of French soldiers.

After the deed of conveyance of the ground follows a notarial instrument, by John M'Gibbon, town clerk and notary public, attesting the act of infeftment upon the ground by the delivery of earth and stone "as use is"—a form in the tradition of property which was in use in my younger days, but now, I believe, fallen into desuetude. The docket of this instrument is in Latin, according to the prescribed form which appears in the diploma of a notary public, and is still used in such notarial instruments where the business is of an important character. It may be interesting in a paper founded upon an old Episcopal Church minute book to note the connection between Episcopacy and the office of notary public traceable in this docket, wherein Mr M'Gibbon designates himself "*clericus Edinburgensis diocesios.*" The notary public was a Roman law official. In later and Christian times he was a *clericus*, that is clerk or clergyman, appointed either by the Pope, or by the German Emperor claiming to be the head of the Holy Roman Empire. In this country James III. enacted that the notary public should be created by the King through the medium of the Lords of Session, but although they might be laymen they remained subject to supervision and examination by the Bishops. Notaries public are now created by the Court of Session, but the old ecclesiastical connection remains in so far as their being styled in their diploma as *clericus diocesios Glascuensis, Edinburgensis, &c.*

After these copies of legal documents in the minute book comes an account, debtor and contra, between Dr Moir and the fund for building the chapel. The date of the first subscription, which is from Captain Lowis, is 9th August, 1793. The last entry of a subscription collected in this country is on 15th June, 1795, being a second sum of 5 guineas given by Mrs Home, Auchenbowie. From India was received a sum of 1680 rupees, subscribed by gentlemen resident there. For this sum credit is given in the account for £168, the standard of the rupee having been until comparatively recent years two shillings. As is well known, owing mainly to the abundant production of silver, and its consequent depreciation in price, the value of the rupee has now fallen more than one fourth, I believe as low as one shilling and fourpence. Still later, viz., in June, 1796, was received from Calcutta, £10 10s, subscribed by General Sir Robert Abercromby, and a like sum by Mr Logan, Calcutta. The total amount received, with the addition of a small overplus from collections after paying clergymen who preached while there was no settled minister, came to £597 5s 5d, and for this modest sum, with a balance apparently of five shillings and sevenpence to the good, the first Episcopal Chapel in Stirling was built, a humble and unpretentious ecclesiastical structure according to my youthful recollections of it.

The site of the chapel was at that time amid garden ground. Murray Place and Barnton Place did not then exist, and were not laid out till more than fifty years later. The way through Stirling to the north then was from King Street, down Friars Wynd, along Viewfield Street to Cowane Street, thence to the Old Bridge, before the present one was opened in 1833, with access by Wallace Street, in part of its course a very narrow and tortuous route for the Royal Mail Coach to steer. From Orchard Place to the foot of Friars Wynd ran a narrow lane following the course of what is now Murray Place. This lane could also be reached from King Street by passing through the coach yard of the Golden Lion Hotel, which then opened on the street by an arched passage now occupied by the coach office of the hotel. Many a time have I traversed the lane on my way to Queen Street, where we then lived, preferring its rural surroundings to the less attractive route by King Street and Friars Wynd.

The old chapel was in fact in Viewfield Street,

from which access was had to the porch by a passage between the south end of the church and a wall separating it from a garden. It was a small square edifice, with a diminutive spire, in which was suspended a bell that by some mischance in course of time had got cracked, and so gave forth no very melodious summons to worship. Internally the arrangement was simple; one aisle leading from the entrance, with the pulpit, reading desk, and clerk's desk, a three-storied structure, at its north extremity, crossed at the centre by another aisle, with the communion table of course on the east side of the church. Some time after the chapel was completed, a gallery was added over the south end of it. Just inside the porch was a stand whereon was placed a large brazen "plate," or salver, for the reception of the offerings of the worshippers as they entered, as is customary in Presbyterian churches at this day. The "plate" was attended to by one of the managers, representing the Presbyterian elder. Mr Murray of Livilands, and Mr Moir of Leckie, undertook this office on alternate Sundays. The "plate" is still extant, being in use in the present church to receive the offertory bags when they are brought up to the chancel. Measuring in diameter 21½ inches over all, the rim 4 inches in width, depth of the plate about 1½ inch, it has embossed in the centre a representation of the Temptation in the Garden of Eden. Adam and Eve stand on either side of the tree, holding in one hand what appears to be intended for a branch, Eve in the other hand holding also the apple. The serpent twined round the tree inclines his head towards Eve, recognisable by her long tresses. Around this central subject, as a border, runs a hunting scene—a man with a short spear blowing a hunting horn, and dogs in chase of a couple of foxes; while to add to the incongruity of this surrounding of the sacred subject, near the foot of the tree is an animal with a tri-forked tail, which from the mane and prominent claws may be taken for a lion. I am not aware of any record or tradition whereby to trace how this interesting antique came originally into the possession of the Stirling Episcopal congregation. With regard to the clerk's desk that has been referred to, I may mention that for many years the performance of the service consisted mainly in a duet between the clergyman and the clerk, an official not now known, except it may be in some of the small English country churches where this primitive arrangement has not yet given way to the better manner in which

the service is now conducted. In the old time the congregation for the most part took no active share in it, giving only a decorous attention without venturing to join audibly in the responses.

The first entry on the discharge side of the account under date of 9th August, 1793, when it may be concluded that operations for the erection of the chapel were commenced, viz., "By 1 lb. gunpowder, 1s 4d; match paper, 3d;" is certainly a very modest item in such an important undertaking as the building of a church. Two quarriers also are employed for fourteen or fifteen days, at 1s 6d per day each, and they expend 4 lbs. more of gunpowder in blasting the rock for the foundation. Carriage of stones at 3d per cart gives another indication of the cost of labour a hundred years ago. One entry in the account is both interesting and amusing, as evidence of the careful manner in which the accounts were kept, as well as of the strictly economical spirit that animated those who superintended the building and furnishing of the "chapel." 1795, May 10.—By Elizabeth Bowie for 4½ yards green silk fringe for the pulpit at 7s per yard, £1 4s; ¾ narrow do. for the communion table at 2s 8d, 8s 8d. (*N.B.*—The silk fringe round the old cover of the altar having been cleaned was made to serve the reading-desk whereby a saving arose of £1 11s 6d.) The "altar" here referred to must have been in use when the members of the Episcopal community were in the habit of meeting for worship privately while the penal laws were in force.

A few other items may be quoted, as being each of some little interest, in this account of a century ago. 27 May—By 3¾ yards fine green cloth for the communion table, pulpit, and reading-desks, at 17s per yard, per George Branton's discharge £3 3s 9d. Same date.—A silver communion cup, gilt inside, £4 16s 6d; a plated patten with silver edges, per Francis Howden's discharge £1 8s 6d; packing-box for do., 1s 6d. September 18.—For carriage of the commandments from Edinburgh, the carrier being detained on their account, 3s 6d. It is not to be inferred from this item of charge that the Episcopalian congregation in Stirling were in so benighted a condition as not to possess a copy of the Ten Commandments. It only refers to the old custom of having affixed on the wall in the chancel of the church beside the communion table, a wooden or stone slab with the commandments inscribed on it, and usually flanked by a similar tablet bearing the Creed, and frequently, also the Lord's Prayer. These

mural affixes may be seen in most of the older English churches.

December 24.—Postage paid for a letter from London with the bill for the 2nd subscription from India, 1s 8d. 1796, January 3.—For duplicate of do., being charged only single, 10d. These two entries in the account for postage of letter from London suggest a consideration of the very different circumstances we now live under as regards postal charges, compared not only with the time when the minute book was being initiated, but with what those of us remember who look back little more than fifty years ago. As every one knows a uniform penny rate for letters conveyed within the limits of the United Kingdom was about that latter time adopted. And here I may notice what I never see alluded to in connection with this subject, viz., that the first uniform rate was not a penny, but fourpence, the authorities being apparently timid as to the effect the reduction all at once to a penny might have on the revenue. The fourpenny rate, however, lasted but a short time, and gave way in favour of the penny; and we know how needless was the apprehension of loss of revenue by the change. Formerly letters were charged in a sort of rough way, according to the distance they were conveyed, and we see that for a single letter from London, the postage was 10d. A single letter meant one written on a sheet of post paper, to be folded letter shape. Envelopes were not then commonly used, a sheet of letter paper enclosed in an envelope being charged as a double letter. Naturally, owing to this high tax of postage, correspondence in those times was on a very restricted scale, and I remember that in my youthful days, David Bell, the solitary postman for the town, conveyed all his letters for delivery in one small black japanned tin box, carried under his arm. What trouble we have got rid of in the folding of the letter, and the sealing or wafering of it—a wafer by the way was not considered a polite means of securing it, and was usually reserved for business letters, or tradesmen's bills—what a saving of time by the adoption of note paper and gummed envelope, and what a saving of time and trouble, in despatching the letter with its adhesive stamp, and its delivery, when we think of the delay and trouble entailed in olden times, by the postman having to collect the postage, if the letter, as it might be, was not prepaid. The present generation accept these vast improvements as matters of course, as they also do such notable inventions as railways, telegraphs, telephones

and other developments of steam and electricity, all of which I never cease to regard with feelings of wonder and admiration. We of the older generation, cannot but reflect sometimes under how much better conditions, in many respects, the business of life is now carried on.

The high postal rate was felt to be a heavy tax, and as when the duty on spirits has been disproportionately high, smuggling has always flourished, so the letter tax was often evaded. Anyone going to such a comparatively short distance from Stirling as Edinburgh or Glasgow, was pretty sure to be made the bearer of a packet of letters to residents in either of these places, to be posted there. I was thus usually made use of, just before the postage was reduced, on the occasions of my going in to Edinburgh to attend the college classes. As there was a penalty attached to this clandestine proceeding, if the letters were discovered, provided they were closed, it was not uncommon to send them open, to be sealed on arrival, and then posted or delivered by hand. When at an earlier period of my college career, I wore the scarlet toga at Glasgow University, my home letters used to be forwarded to me in a parcel of goods which was each week sent in the course of business by a firm in Stirling to the head of the family in which I was residing.

The building of the chapel appears to have been completed in the autumn of 1787. The last entry in the account is dated May, 1798. By Mr John Burns' account of expense, issued by him for the title-deeds, he charging nothing for his trouble, £2 16s. By balance (*i.e.*, of the building fund), 5s 7d.

An interval of ten or eleven years now occurs, the next date of a minute being 26th September, 1809, which, looking to the paper water mark already referred to, must have been the first minute entered actually at the date as given, the previous ones no doubt being copies from documents written before a regular minute book was made use of. This minute gives the proceedings at a meeting held to take into consideration the affairs of the Episcopal Chapel. The list of the names of those present may have some interest in connection with the present occupiers of some of the estates mentioned. John Stirling, Esquire of Kippendavie, for himself and for Mr Stirling of Keir, Mr Graham of Airth, and Mr Russel of Woodside (now called Glenbervie, situated between Stirling and Larbert), Henry Steuart, Esquire of Allanton for John Graham, Esquire of Gartur, Colonel Rind of Livilands, Colonel

John Murray, John Murray, Esquire, Mr Stirling, chosen preses, Mr Murray, clerk.

The minute states that the meeting having considered that ever since the establishment of the Chapel no meetings of the subscribers have been held, either for the examination of its accounts or for the regulation of its affairs, unanimously entered into certain resolutions. The first is that a general meeting be called of all such persons as have formerly subscribed to the Chapel, and the erecting of the late additional gallery there, or such others as have an interest in the Chapel, "in order to take into their consideration the affairs of the society," (they do not style themselves a congregation, perhaps having not yet got over the humbling effects of the penal laws) "and to appoint a Committee of Management." They find that the accounts as kept by Dr Moir of Leckie and Mr James Wilson, the treasurer, are extremely correct, and Mr John Murray being appointed treasurer owing to Mr Wilson being in bad health, he is requested to procure a book into which they shall be entered, no doubt the one from which these extracts are being made. Mr Steuart of Allanton is requested to draw up a "Sketch of Rules and Regulations." Among other things to be considered by the general meeting it seems essential that they should adopt some plan for the improvement of the mode in which the society is assessed, or assesses itself, for the payment of the clergyman's salary, that such improvement should be founded on two obvious principles: 1st, the proportion of room in the Chapel that each subscriber occupies for himself or his family; 2nd, his actual ability and situation in life; but in the present state of the subscription the meeting cannot help observing that much reference is had to neither the one principle nor the other.

The next resolution, while it is amusing and may raise a smile, has in it a touch of the pathetic—"That it is highly improper and indelicate, and inconsistent with the practice of the Episcopal bodies in the kingdom to suffer the collecting of the clergyman's salary to devolve upon the clergyman himself, however willing he may be to take that trouble. That the business should exclusively belong to the treasurer and collector of the society, and that when the salary is collected (as it ought to be twice a year, at Whitsunday and Martinmas), it should be regularly paid to the clergyman by the Committee of Management." The Rev. George Gleig, D.D., Bishop of Brechin, was at this time the

incumbent of the charge, and it must be admitted that it was very unbefitting the position of a prelate of the Scottish Episcopal Church to have to go round among the members of his congregation and personally solicit the contributions that went to make up his stipend. It is satisfactory, however, to know that among the Episcopal bodies in the kingdom (of Scotland, of course), that of Stirling was unique in this respect, and that the practice, when it was brought under consideration was put a stop to. Some interest attaches to the following resolution as showing that the gradual diminution in the purchasing value of money, which has been in progress from the earliest periods of our national history, then attracted attention—"That in connection with the great rise in the expense of every article of living, and the unexampled diminution of value of money which have of late years taken place, the salary at present paid to the right Rev. Bishop Gleig is very far from being adequate to his useful labours, and that especially it bears no proportion to the lower classes of income now enjoyed by Presbyterian clergymen of the Establishment. That the meeting feel it as a duty which they owe to themselves, no less than to their worthy pastor, to make some immediate increase in his salary, and are therefore of opinion that one half more should be added thereto by the subscribers in future." It does not appear in the Minute Book what income the bishop drew from the church, but it must indeed have been but an inadequate one, when, as afterwards appears, he on resigning his charge was content with a retiring allowance of £150 a year. Another meeting was held on 16th October, at which the rules and regulations as drafted by Mr Steuart of Allanton were considered and adopted. They provide for the appointment of a Committee of Management, for the holding of regular meetings, the collection of the clergyman's salary, &c.

The next meeting of members of the congregation is minuted as having been held 30th March, 1812, Bishop Gleig presiding, and the minutes being written by him in a very neat small hand. This is the first notice of the designation of "Episcopal Congregation" having been assumed in place of that of "Society" hitherto used. At this meeting Mr Thos. Graham Stirling is elected a trustee in room of Mr Jas. Wilson, Murrayshall, deceased.

The next meeting, of which there is notice in the minute book, was held October, 1814, at which was appointed a Committee of Management, the one

appointed in 1809 having never really acted, also a collector and treasurer, and some new arrangements were made for letting of seats not fully occupied, in order to increase the clergyman's income. The congregation seem to have taken the affairs of the church very easily, and left them very much to the management of their pastor, contenting themselves with holding at very long intervals meetings, at which resolutions were passed that apparently were sometimes not carried into effect. After the lapse of three years, viz., in November, 1817, a meeting was held at which a new treasurer was appointed, Alexander Dow having resigned the office. After this there is no entry in the minute book for nearly twelve years, viz., until 10th March, 1829, when there appears a letter in the hand-writing of the late Rev. Robert Henderson to the effect that Bishop Gleig, finding that owing to advanced age and infirmities, he is no longer able to do the duties of the Episcopal Chapel in Stirling, it is of importance that steps be taken to induce a fit person to hold permanently the situation of his assistant during his life, and to succeed him after his death. Certain members agree to subscribe, in addition to their present annual subscription, the sums entered respectively opposite their names, with a view to enable the Bishop to give to the Rev. Robert Henderson, who had been acting as curate with great satisfaction both to the congregation and the Bishop, such a salary as may induce him to accept the situation of assistant and successor.

In October, 1831, Bishop Gleig, owing to his very precarious and infirm state of health, resigned his pastoral charge, and was guaranteed a retiring allowance of £150 per annum, and Mr Henderson was instituted to be pastor and minister of the congregation. The Bishop, according to a memorial tablet now affixed on a wall in the present church, died 9th March, 1849, or as it is expressed according to the Roman Kalendar, the inscription being in Latin, on the VIII. of the Ides of March. An amusing anecdote is told in connecting with this obituary inscription. A member of the congregation who had evidently grown rusty in his Latinity, trying to puzzle out the meaning, when he came to the words, "*semper erat sibi constans,*" referring to the Bishop's consistency of conduct, taking it to be an allusion to his having always stuck by Sibbie, the old pew-opener, remarked "Weel, he was aye kind to Sibbie."

Dr Gleig on his ordination, in 1773, was appointed to

the charge of Pittenweem in Fife, which, in 1787, he exchanged for that of Stirling, where he ministered for the long period of fifty-three years. As indicative of the high estimation in which he was held, he was, the year before removing from Pittenweem, unanimously chosen by the clergy of the Diocese to the Bishopric of Dunkeld, which had become vacant by the resignation of the holder of the office. After reluctantly giving his acceptance, Dr Gleig then withdrew it owing to objections made to some of his published opinions by Skinner, Bishop of Aberdeen. In 1792, Dr Gleig was again unanimously chosen Bishop of Dunkeld, but for some reason or other his election was vetoed by the College of Bishops. Yet a third time, viz., in 1808, he was selected for the same Bishopric, but this time only by a majority of the electing Presbyters, viz., three to two, and on this occasion he declined the appointment, at the same time urging Mr Torry, who had the minority of the votes, to accept it, which he did. Immediately afterwards he was (again unanimously) chosen Bishop of Brechin, a dignity which he accepted, and his election to which was confirmed.

Bishop Gleig was reputed to be a man of very considerable learning and literary ability. Besides various theological works and contributions to magazines, he furnished several important articles to the edition of the Encyclopædia Britannica, then being published, and on the death of the editor of that voluminous work, Dr Gleig was appointed to succeed him. The Episcopal residence in Stirling, was one of the houses about the middle of Upper Bridge Street, on the east side of the street, not even a detached dwelling-house. Bishop Gleig's son, after holding a commission in the army, and seeing service in the Peninsular War, entered into Holy orders, and in time became Chaplain General of the army, an office which he filled for many years. He died only a very few years ago, having attained, I believe, an even more advanced age than his father the Bishop. He was the author of "The Subaltern," a book that received much favour at the time it was published, in which he gave reminiscences of his military career, and especially of his experience in the Peninsular War. He also wrote a life of the Duke of Wellington, with whom he was a favourite. I well recollect hearing him on one occasion, during the lifetime of his father, preach in the old Chapel, a fine spirited sermon, such as might be expected from one who had been a soldier.

Some time early in the forties, a more commodious

church was erected to replace the original small structure, and on the same site, the congregation, it is said, using for worship the Wesleyan Chapel, in Queen Street, while the building was in progress, and it is also said, adding a gallery to the Chapel for increased accommodation. There is no record in the Minute Book of the building of this second Church, but the Deed of Consecration by Bishop Terret, bearing date, 20th Feb., 1845, is among the vestry-papers.

Early in 1865, a change of importance as affecting the regulation of the affairs of the congregation, was introduced, by the appointment of a Vestry to assist the Clergyman, and manage the temporal affairs of the Church. A constitution was at the same time drawn up, approved by the Bishop of Edinburgh, and adopted, by which constitution the action of the vestry continues still to be regulated. It provides for a vestry of six members, elected by the congregation, besides, *ex officio*, the trustees of the church, and the incumbent chairman. The only alteration since made in this constitution, has been the providing for the election of three permanent members of vestry, in place of the trustees who at first held that position.

In July, 1865, the Rev. Mr Wilson, curate of Buxton, was appointed assistant and successor to Mr Henderson, and in January, 1868, on the resignation of the latter, after forty-one years of faithful and devoted service in Stirling, besides seven in England, Mr Wilson succeeded to the incumbency. Mr Henderson died in February, 1875.

In November, 1873, after several months of enfeebled health, Mr Wilson, who had not only greatly endeared himself to his own congregation, but who was held in high regard by many members of other denominations in Stirling, died, and was succeeded in the incumbency, by the present much respected Rector, Rev. Clement Leigh Coldwell, M.A., who was instituted, 3rd March, 1874.

This sketch of the history of the Episcopalian congregation in Stirling may now be wound up by a short reference to the building of the third church, the one in which they now worship. It began to be felt that, among other drawbacks to the edifice that was opened in 1845, the accommodation it afforded was cramped and inconvenient, and inadequate to the wants of the congregation; the church was very indifferently lighted, and the vestry was inconveniently situated in the basement at the foot of a very steep, awkward, not to say dangerous, stair.

Mr (now Dr) Rowand Anderson, architect, Edinburgh, was consulted as to whether it would be practicable and advisable to enlarge the church by building an addition to it. He reported that owing to the peculiar shape of the site this could not be done to any advantage. It was, therefore, resolved to build a new church in some other locality. Accordingly an acre of the ground in Dumbarton Road which had long been utilised for small garden plots, was feued from Spittal's Hospital, and a plan having been furnished by Mr Anderson, estimates were taken from various local tradesmen, and in August, 1875, the digging for a foundation was begun. In September, 1878, the church, being completed for public worship, was consecrated and opened for that purpose by Dr Cotterill, Bishop of Edinburgh. The cost up to that time was nearly £11,000. This does not include the value of various generous gifts, such as the fine stained glass window in the chancel, the very handsome marble pulpit, the elegant brass lectern, &c. A remarkable contrast this to the modest sum of £597 5s 5d which covered the expense of erecting and furnishing the old original "Chapel." The new church, Early English in style, is universally admired, and is a structure worthy of the eminent reputation Dr Rowand Anderson enjoys for skill in designing and for correct taste in ecclesiastical architecture.

In concluding this paper, I, myself a member of the Scottish Episcopal Church, may be allowed to regard with feelings of no ordinary satisfaction the position the Stirling congregation now occupies, privileged to join in the hearty services celebrated in this handsome church of Holy Trinity, compared with that of the small Episcopal "Society" of a century ago, worshipping according to their cherished ritual at first by stealth, and then, when the ban of the penal laws was removed, in their humble "chapel," where they listened reverently, but in silence, to the Church service recited by the minister and the clerk. Further, I hope I may without presumption be permitted to add how gratifying it is to know that now, since much of old prejudice has died out, most of the other Christian communities are similarly, by a gradual improvement and brightening up of their services, making them so much more attractive and interesting to the worshippers, while at the same time not less reverent, and surely not less befitting public worship in the house of God.

Note.—Having been asked to describe more par-

ticularly the locality of the old chapel, I may say that, when the church of 1845 which replaced it was pulled down, the site was acquired by Mr Robert MacEwen, of MacEwen Brothers, Barnton Place, and that their premises, with the other tenements that form the angle between Barnton Place and Maxwell Place, now occupy the ground on which stood the old chapel, with the small gusset of vacant space in which it terminated, the feu in this way being triangular in shape.

The monthly meeting of the Stirling Natural History and Archæological Society was held in the Y.M.C.A. Institute, Allan Park, on Tuesday evening, 15th November—Rev. Mr Goldie presiding. The minutes of former meeting having been read and approved of, the Chairman introduced the essayist, Mr D. B. Morris, who read the following very interesting paper on

"*THE RAISED BEACHES OF THE FORTH VALLEY.*"

As the student of geological history follows the vast and numerous changes which have successively taken place in the structure of our country, it is with a feeling of relief that he approaches the more recent of these changes. The globe, as we find it now, may be likened to a complicated article of manufacture on which successive workmen have expended their skill, and which has from time to time been much altered in appearance as the different processes have been applied to its structure. Looking at the article, we can see traces of the earliest forces which have been brought into play to form and to mould it, but these have been much effaced by subsequent operations. The marks most distinctly visible are those of the graving tools which the last workman has just laid aside. So the student of geology can trace in the rocks something of the varying physical conditions of the earth in successive geological ages, but as a rule the conditions most distinctly traceable are those most recent in time. It is in these later geological formations that we first come in contact with relics of the human race, and here for the first time the geologist and the archæologist pursue their investigations together. Here, for the first time, the geologist shakes hands with the student of history (albeit unwritten history), and his enquiries into the story of the

earth's surface receive an added interest and impulse from contact with the earliest springs of the tide of human life.

The latest great change which took place in the geological condition of our country was the rising of the land to a higher level above the sea, slowly, by successive stages, with occasional oscillations back to its former level, and with long intervals of rest between; thus exposing tracts of country which had for long been buried beneath the waves. The relics of these successive changes of sea level in Scotland are preserved in the raised beaches. Everywhere at intervals round the whole coast of Scotland, from Shetland to the Solway Firth, there may be seen a succession of flat terraces at varying heights between the hilly land and the sea. These are called "raised beaches." The term is not a good descriptive one. They are only beaches in a limited sense, and would be more aptly described as ancient ocean floors. These terraces have had a vast influence on the history of Scotland, because almost all our coast villages and towns have been built on the selvage which their flat surfaces presented close to the sea. Lerwick, Cromarty, Dundee, Burntisland, Leith, Oban, Greenock, and Rothesay are all to a great extent built on old raised beaches, and even large portions of such inland towns as Perth, Stirling, Falkirk, and Glasgow are similarly situated.

The raised beaches exist at different levels at different parts of the coast, but, setting aside certain higher level terraces, a careful investigation shows that the most distinctly recorded may be grouped into three divisions. These are generally known as the "100 feet," "the 50 feet," and "the 25 feet" raised beaches, the first named being the oldest. The two former are very distinctly seen in the valley of the Forth. The 25 feet and other low level raised beaches are to be traced at various places on the Scottish coast line, but as they do not appear until some distance down the Firth of Forth, we need not further consider them at this time. The terms, "50 feet" and "100 feet," indicate roughly the average height above sea level of the raised beaches so named, the data being mean sea level at Liverpool, which is the standard of the Ordnance Survey.

The 50 feet and 100 feet raised beaches are easily distinguishable from each other and from the surrounding land surface. The readiest methods of determining them are:—(1) The flat terrace shaped appearance, much more pronounced in the 50 feet

than in the 100 feet beach, as the latter being older has been altered by denudation to a much greater extent. (2) The height above sea level, as indicated by the names. Relying on this alone, one might fall into error, as there were no doubt inequalities in the raising of the surface from the sea, and subsequent denudation has acted more forcibly on some parts than on others owing to the softer nature of some of the strata. The raised beaches, therefore, do not retain a uniform level. (3) The old coast lines which mark the boundaries of the two raised beaches. These form more or less distinct lines worn by the waves of the ancient ocean. (4) The nature of the soil. Roughly speaking, the soil of the 50 feet beach is carse clay and the 100 feet beach dryfield, both distinguishable from the till or boulder clay of the higher lying districts. I shall refer subsequently in greater detail to these characteristics.

THE FIFTY FEET RAISED BEACH.

POSITION AND EXTENT.

The 50 feet raised beach consists of the carse lands (at parts covered with moss) bordering the river Forth, and stretching without interruption from the immediate vicinity of Gartmore in the west, to their eastern termination at Culross on the northern, and Bo'ness on the southern shore of the firth. The beach is thus about 30 miles in length. In breadth it varies very considerably, being sometimes five miles broad, and at other places narrowing to a few hundred yards. The beach terminates westward in two rounded bays in the vicinity of Gartmore. It attains a breadth of several miles at Offrance Moss, across which the railway from Buchlyvie to Aberfoyle runs. It gradually narrows until at Cardross Bridge near Port of Monteith Station, the carse consists of a mere strip bordering the river. It again broadens eastward until at Flanders Moss, it is three miles broad. Here an arm of the carse runs up the Goodie Water to near the Lake of Monteith. It narrows to two miles in breadth between Coldoch and Leckie, broadening again to four miles between Bridge of Allan and Touch. It then suddenly narrows at Stirling, the intrusive dolerite masses of the Abbey Craig on the north, and of King's Park and Stirling Castle Rock on the south, being thrust forward as projecting headlands, causing a narrow strait, similar to that in the present firth between North and South Queensferry. East of Stirling the carse suddenly

broadens, attaining between Menstrie and Bannockburn a width of four miles and a half. An arm of the carse runs up the Devon as far as Tillicoultry. Below Alloa, the northern section of the carse continues for some distance about a mile broad, narrowing towards Kincardine. It is then a mere strip bordering the firth, until Culross, where it gradually merges into the 25 feet raised beach, which appears at intervals round the Fife Coast. The southern section of the carse below South Alloa broadens out to nearly five miles, narrowing to two at Kinnaird, widening again where the Carron river enters the carse, then sweeping eastward in a broad platform to its termination at Kinneil near Bo'ness.

LEVEL.

Although to the eye presenting the appearance of a plain of almost uniform elevation, a closer examination shows that the 50 feet raised beach exhibits considerable variety of level. Broadly speaking, the level rises from east to west, and from the banks of the river to the boundaries of the carse, both on the north and south. Thus, where the Avon enters the Firth of Forth, the carse is only 12 feet, while at Offrance Moss it is about 50 feet above mean sea level at Liverpool, the data of the Ordnance Survey. There is therefore a rise of about 40 feet in 30 miles, being 1⅓ feet per mile or 1 in 3960, from east to west. The level at the mouth of the Carron is 12 feet, while at Grahamston it is 25 feet, a rise of 13 feet in 3 miles or 1 in 1218. Where the Touch burn enters the Forth the level of the Carse is 33, and at Touch House 42 feet above sea level, a rise of 9 feet in a mile or 1 in 586. The rise from the river to the edge of the carse is therefore steeper than the rise from east to west. It is to be noted also that the successive peninsulas formed by the "links" of the river Forth are generally considerably lower than the adjoining parts of the Carse. For example, the peninsula on Hood Farm, opposite Stirling Shore, is considerably lower than the lands of Forthside and Forthbank on the other side of the river. The promontory of Queenshaugh is lower than the lands of Ladyneuk opposite, and Bridgehaugh than Shiphaugh. Close to the river, and so little above its level as to be occasionally liable to inundation, there is in many parts of the river's course a narrow belt of land formed by the fresh water alluvium carried down and spread out by the river. It is an old river terrace, and its boundary indicates an old

river margin cut out of the marine alluvium of the carse. Where large tributaries enter the Forth, river terraces at a lower level are frequently cut out of the 50 feet beach, and covered with fresh water alluvium, *e.g.*, the Teith at Ochtertyre, the Allan at Keirfield, the Bannock at Lower Taylorton, and the Carron between Larbert and Grangemouth. At Taylorton, the level of the alluvial flats is so low that artificial banks have been constructed to prevent the land from being flooded. At several places, eminences rise out of the carse, although surrounded on all sides by it. These mark islands or reefs in the old Forth estuary. They are Nyadd Knoll, Hill of Drip, Craigforth, and the two Hills of Airth, the one being at Dunmore Park, and the other at Airth Mains.

BOUNDARIES—THE OLD COAST LINE.

At no point can you leave the flat level of the carse without climbing a decided and generally rather steep slope, until you reach the plateau above. The flat represents the bed of the ancient ocean, while the rim is the ancient shore line. Centuries of rain and storm, of frost and thaw have greatly washed out the sharp lines which the receding sea left behind it. The hand of man has also greatly assisted the elements in the work of obliteration, and plough and harrow have smoothed over the marks of the ancient shore. Nevertheless the coast line can be distinctly traced throughout its entire length.

The western termination of the 50 feet raised beach is a double bay. The southern portion is broad and semicircular in shape, stretching from the vicinity of Buchlyvie Station to a point half a mile south of Gartmore village. This marks the farthest distance inland to which the waves of the ancient Forth estuary of this time stretched. The two bays are separated by a steep sided promontory, well wooded at the top, to the north of which the smaller bay recedes back to near Gartmore House. This promontory and the two bays are well seen from the railway between Buchlyvie and Gartmore stations. The road from Buchlyvie to Aberfoyle skirts the western termination of both bays, passing over the low ground behind the intervening promontory. The river Forth flows into the northern bay, and here the haugh or river terrace merges into the marine terrace of the raised beach. The northern coast then sweeps eastward in a long

straight line towards the Lake of Menteith, the margin being sharply marked. Bending south-eastward, it sweeps by Cardross bridge and in front of Cardross House to the termination of the promontory which lies between the waters of the Goodie and the Forth. The coast line then bends suddenly to the north-west, following the southern shore of what we may call the estuary of the Goodie, until within a quarter of a mile of the Lake of Menteith where the Goodie stream crosses it. It then resumes its original course eastwards, and can be traced past the village of Thornhill, in front of Coldock House, to the hamlet of Blair Drummond. During all this length the coast line appears as a succession of rounded hills rising sometimes abruptly, at other times gradually, and occasionally in successive stages or shelves from the flat level of the carse.

The church of Blairdrummond has been built on the top of the hill, and is thus a striking object in the landscape for a long distance off. The coast then follows a north-easterly direction through the policies of Blairdrummond estate, until immediately after the knoll at Blairdrummond Castle it sinks to the level of the Teith. The Teith at present follows a winding course along a series of alluvial flats formed of silt carried down by the river in the course of ages. As there is no river gorge in the Teith until several miles up, it is probable that the present stream flows over the site of an ancient tidal river of considerable length. The margin is very distinctly marked along the left bank of the Teith below Blairdrummond, where it takes the form of a precipitous bank, from the summit of which a fine view can be obtained. Near Craigarnhall Farm, the bank becomes a cliff of red sandstone, which looks as if the ocean had receded but a few hours before and would return with the next tide. Passing eastwards, the well-marked ridge continues along Keir estate until we reach Lecropt Parish Church, which stands close to the edge of the terrace. The ridge continues until it is broken down by the River Allan, which has hollowed a wide trough out of the ancient shore. The Allan of former days must have entered the sea much about the spot where it is at present spanned by the bridge. As the fall of the stream is rapid, it could not have been at all a tidal river.

On the left bank of the Allan, the terrace rises very abruptly and can be distinctly traced through the town of Bridge of Allan, where rows of villas are

erected along the summit of the ridge, until we come to Coneyhill. After this the ridge is not so distinct for some distance, having mouldered away during the rains and frosts of centuries, although the line of low heights in Airthrey policies which dominate the highroad from Bridge of Allan to Causewayhead sufficiently marks the old coast line, which for a considerable distance is followed by the road itself. At Spittal Farm, however, the hill rises and is distinctly seen until we reach the Abbey Craig, whose rocky sides must have presented a bold front to the beating of the ocean surge. Passing round the Abbey Craig by the south and east, we come upon the marks of the old coast again at Craigton Farm, where it follows a line first alongside the highroad and then through Airthrey policies by a well defined ridge to near the ruins of Logie Old Church, where it is taken up by the steep front of the Ochils. The Ochils would then form the ocean margin for many miles eastward.

The Devon Valley must have been a long, narrow, sea inlet stretching probably as far east as Tillicoultry, and forming the firth by which the waters of the Devon reached the sea. The northern boundary of this inlet was formed by the Ochils, and the southern shore by a well marked slope bounding the narrow carse through which the river Devon now follows a winding course. This ridge terminates to the west near the village of Tullibody. Walking along the road from Tullibody to Menstrie, one cannot fail to notice the sudden dip where the former land surface dropped into the sea. From Tullibody village the slope to the west is gradual, but to the south, close to Cambus railway station, the ridge again becomes quite steep, and the coast line is very distinct as far as Alloa. The old shore line then sweeps eastward passing to the south of Clackmanan Tower, where it is very steep, in front of Kennet House and Tulliallan Castle, behind the village of Kincardine, and then, coming very near to the present coast line, to Culross. The village of Culross stands on the raised beach, and the old coast line rises in a steep slope behind, covered with fine old-fashioned gardens, dotted with fruit trees and intersected by curious winding pathways between high walls. The view from the famous Beech Walk of Culross (so called from its row of beech trees) is very fine. The raised beach at Culross is low in level and gradually merges in the lower level raised beach which skirts the present Firth of Forth. The old coast line between Newmills and Torryburn is

very distinct, rising at places in precipitous cliffs of sandstone.

Let us now trace the southern coast line of the old Forth estuary. A little to the east of Buchlyvie, a bold rocky bluff with steep sides stands out into the carse, showing in its formation evident traces of the wearing action of the sea. Eastward from this past Port of Monteith Station the coast at first is generally low and sloping, and then becoming steeper it sweeps south eastward in a fine curve to near Kippen. Eastward from Kippen it follows a nearly straight line parallel with the road and with the railway. Leckie House stands on the ridge. The village of Gargunnock is situated at the end of a small bay, the main street climbing from the level of the carse over the ridge of the old coast line. The eastern side of the bay is formed by the estate of Gargunnock, and after rounding a decided promontory at Gargunnock House, the coast follows a line nearly due eastward. Following the road to Cambusbarron, shortly after it leaves the Dumbarton Road, we find the old sea front skirting the road for some distance, and with its rocks and graceful foliage and clusters of ferns and wild flowers reminding one of a sheltered bit of the Fife coast at the present day. The coast line then takes a sudden bend southwards from the rocky promontory at Craigniven farm behind Touch House, past Gartur House, then northward to the knoll at Hillhead farm above the lime kilns. There is thus a finely marked bay between Craigniven and Hillhead. Thence the coast follows the rising ground where the village of Cambusbarron now stands, past the field where the Militia camp is placed to the cliffs of the King's Park. These cliffs would form the margin as far as the farm house of King's Park, where the steep slope above the Clay Toll marks the limit of the ocean's sway. The marks here become more obscure owing to centuries of road making and cultivation, and owing to the sandy nature of the soil. The ridge, however, again becomes distinct at the height overlooking the lower part of Raploch, on which several dwelling houses have recently been erected. The lower part of the Gowan Hills then forms the coast line until we come to the town at Lower Bridge Street. Here the channel would be confined to a narrow strait, one mile broad, between the Gowan Hills and the Abbey Craig.

The town of Stirling is built almost entirely above the level of the 50 feet raised beach. Wallace

Street, Forth Place, and Nelson Place, however, are built on it. Notwithstanding the extensive alteration made on the surface by the operations of man through long continued ages, we can still approximately trace the old coast line through the town. It passes along between Cowane Street and Wallace Street, and is crossed by the road at the sudden rise at the upper end of Wallace Street. York Place, Viewfield Place, and the northern sides of Barnton Street and part of Murray Place are built just above the line, the falling away of the ground to the north indicating the descent to the level of the raised beach. Passing by Orchard Place and Lower Craigs, the point of a small promontory is reached just beyond the Craigs Tanwork. The coast line then sweeps back to George Street and St Ninians Well Green.

Leaving the town to the south, the old shore shows itself distinctly in the slope behind Viewforth. The slope becomes gradually steeper as we proceed southwards, and when we come to Annfield it is precipitous and very clearly marked. This continues as far as Wester Livilands House, behind which there is a bluff with a steep face. Past Braehead farm and Easter Livelands mansion house, the coast line is rolling and softened, but when we reach the east end of Balquhidderoch Wood, we find it resumes its former precipitous character. This continues round both eastern and western margins of the embouchure of the Bannock. Passing east, tho railway climbs over the old coast line from the level of the carse near Bannockburn Station. From the railway a good view can be had of the carse lying flat inside its encircling rim, and no great stretch of imagination is required to picture the plain covered with the blue waters of the ancient estuary, and the waves washing against the ancient shore.

The coast line then takes a bend of several miles round to the east, whence sweeping south west, the railway again crosses it, passing down to the level of the carse. Shortly after passing Bogend farm, the railway rises over the ridge, and the coast line sweeps north east, round another large promontory, past Carronhall and into an inlet where the river Carron enters the carse. The fresh water alluvium of the Carron is considerably mixed with the marine terrace of the 50 feet raised beach, but the coast line is still distinct, being on the southern and eastern sides of the inlet very steep. A rifle range has been placed in the valley and the old sea cliff forms

a splendid natural embankment against which the targets are placed.

At Dorrator, a series of alluvial flats at various levels can be seen. These indicate former levels of the river Carron, some of them probably having been in existence previous to, or during the formation of, the 50 feet raised beach. The coast line then sweeps eastward, passing through Grahamston, and to the north of the village of Laurieston, and terminates at Kinneil, near Bo'ness.

FORMATION OF STRATA.

Owing to the low level of the 50 feet raised beach, good sections of the strata are seldom seen. Where railways cross the carse, cuttings are not required, and thus it is only in the courses of streams, at numerous brickfields, or in the digging of the foundations of houses that the strata are exposed. Generally speaking, the upper deposit, immediately beneath the layer at the surface which is changed by the operations of agriculture, is a stiff clay. This is the clay used in the manufacture of bricks. The stratum is only several feet deep, passing gradually into a muddy deposit which is useless for brick-making. Both strata are usually spoken of as entirely free from stones, but small boulders of highland grit and dolerite several inches in diameter, have been found, eight feet or so below the surface, by Mr M'Dougall, at Ravenna Cottage, near Stirling. At various places in the carse, layers of peat and vegetable matter have been discovered at a considerable distance beneath the surface. These would point to oscillations of level, when the bed of the ocean was elevated and exposed to the air, and oaks, firs, birches, and hazels had time to grow to maturity. In the clays of the carse frequent beds of shells are to be found. To these, reference will be made shortly. These shells are sometimes imbedded in a thin layer of sand intercalated with the clay, but are frequently found lying in the clay itself. Where streams enter the carse a layer of fresh water alluvium is usually spread over the marine clay. A section exposed in the bank of the river Kelty, where it enters the carse near Gartmore, shows this very well, a depth of three feet of river sand overlying the stiff bluish clay beneath.

The soil of the carse is very dissimilar at different parts. The reason of this can readily be understood. The carse consists of an old sea bottom, or rather the bottom of an ancient estuary, through which a current flowed. Towards the centre of the

current, near the course of the present river Forth, the alluvium brought down from the distant uplands, and derived from the denudation of the boulder clay, would be slowly deposited. The plain is there one of deposition. Towards the edge of the estuary, on the other hand, the waves would be continually wearing away the old coast line, which consisted principally of the sands and gravels of the 100 feet raised beach. These sands mingled with the mud held by the water in suspension, and both were deposited together. The carse is therefore, at its edges, a plain of erosion, and is more properly a raised beach than the parts near the middle. The result is that the soil at the edge of the carse, more especially where it adjoins the 100 feet raised beach, though a stiff clay, is so mingled with sand as to be agriculturally of poorer quality than the rich clays along the banks of the Forth. The quality of the soil of the lower parts of the carse near the river is also improved by a certain mingling of fresh water alluvium. The lands at the edges of the carse do not, as a rule, yield such heavy crops to the farmer as those more fortunately situated, and the rents are correspondingly smaller.

Considerable portions of the carse are to this day covered with peat moss, the most extensive of these being known as Offrance, Flanders, Ochtertyre, Cowie, Dunmore, and Letham mosses. The moss must at one time have covered a much more extensive area of the carse than it now does, as it has been greatly cleared away in order to reach the underlying clay soil for agricultural purposes. Whether the whole carse was ever covered or not, it is impossible now to say. It is worthy of notice, however, that there is no village situated on the carse until we come as far east as Cambuskenneth, and with the exception of parts of Stirling and Alloa and a few places round the Firth, no town of any importance has been built on its level. The old roads also seem to have been made expressly to avoid the carse; for example, the old Hillfoots road and the road through Gargunnock and Kippen. These wind up and down over the lower spurs of the hills in a seemingly quite irrational way when we compare them with the good, level, modern roads by which they have been superseded. I have also been struck by the number of parish churches which have been built on the edge of the terrace overlooking the carse. They form quite a characteristic feature in the landscape, and are usually seen for a long distance off. Barbour, in describing the battle

of Bannockburn in his poem, "The Bruce," refers to the "kers pulis" (carse pools) which required to be bridged. All these considerations would lead one to infer that the moss at one time covered very extensive tracts of what is now the fertile carse of Stirling, and made it impossible for the inhabitants either to build on it or to carry roads across its surface.

It is difficult to estimate the depth of the superficial deposits of the carse down to the rock. Borings have, however, been made at several places. Mr H. M. Cadell of Grange mentions a boring at Powfoulis House, on the south side of the Forth, opposite Kincardine, where the depth was 161 feet 3 inches; and another at Dalderse, near Grangemouth, where the depth to the rock was 157 feet. These sections included besides the clay and mud at the surface, extending to 77 feet or so, the underlying gravels, &c., of the 100 feet raised beach which pass underneath the strata of the 50 feet beach.

Mr Milne Holme, in his "Estuary of the Forth" (page 15), mentions that the depth of the superficial deposits at Causewayhead is no less than 216 feet, consisting of sand, mud, and clay, this extreme depth marking a hollow in the surface of the rocks underneath the drift beds. This hollow Mr Cadell takes to be part of the buried channel of the old preglacial river Forth, which he has also traced in the bay of Culross to the north of Preston Island. The tracing of the old river systems of the country before the days of the glacial period (and, of course, long anterior to the formation of the raised beaches), is a very interesting study, but it is rather outwith our present subject.

FOSSILS.

Shells.—As is well-known, beds of marine shells are intercalated with the clays of the carse, probably throughout its whole extent. Sections of shell beds can readily be seen in Cockmalane Burn near Forglen Cottage, and in the banks of the river Allan near Cornton. Sir Robert Sibbald in his "History and Description of Stirlingshire" published in 1707, mentions the shell beds of the carse, and they are also noted in Nimmo's "History of Stirlingshire" published in 1777. In the Statistical Account of Stirlingshire, they are mentioned as having been found all over the carse portions of the parishes of St Ninians, Larbert, Airth, Bothkennar, Gargunnock, Kippen, and Logie. For particulars of species found, I would refer to papers by Mr M'Dougall in the Transactions of our Society for

1879-80, page 54, and 1882-83, page 67, and paper by Messrs Foord and Kidston in the Transactions for 1889-90, page 91.

Polyzoa, Foraminifera, Polycystina and Diatoms.—See the paper by Messrs Foord and Kidston above mentioned.

Vegetable Remains.—The collection in the Smith Institute taken from the brick clay of the river Allan includes the following:—Quercus robur (oak) wood of branches; Pinus sylvestris (fir) cones; Betula (birch) bark and stems; Corylus Avellana (hazel) nuts in great numbers, besides leaves and driftwood unidentified, and a mass of peat from a section of the brick clay exposed on the bank of the Forth near Old Polmaise.

Crustacea.—Carapace and claw of crab, probably Cancer pagurus. Smith Institute collection. Barnacle shells, probably Balanus balanoides, adhering to oyster shells. Smith Institute collection.

Coleoptera. — Limb of a coleopterous insect. Smith Institute collection.

Mammalia.—In the memoirs of the Geological Survey, sheet 31, it is stated that bones and antlers of red deer have been found in the clays of the 50 feet raised beach. I have been informed that a deer's skull with a fine pair of antlers was found in the clay at the Stirling Shore Brickwork, about 50 years ago.

Cetacea.—Perhaps the most interesting of the fossil remains found in the 50 feet raised beach are those of the bones of whales, which have been from time to time discovered in different localties. I shall enumerate such of these as I have been able to trace.

Airthrey Whale.—In July, 1819, in the course of draining operations on Airthrey estate, the skeleton of a whale was found in a field adjoining the south side of the turnpike road, to the east of the eastern porter's lodge. The following account of it was given by Mr Robert Bald, in the Edinburgh Philosophical Journal, for 1819, Vol. I., page 393.:—"The skeleton is evidently that of a whale, and the animal appears to have been about 72 feet in length. The greater part of the bones were found at the depth of about four feet and a half, but some were nearer to the surface. The head was lying across the march ditch, the jaw bones projecting a few feet over Sir Robert Abercromby's marchline into the estate of Powis. The tail lay in a westerly direction from the head. Though the bones were a little disjoined, yet they

lay, upon the whole, in a regular position. The bones which have been preserved, consist of the cranium, numerous vertebrae, several ribs, the jaw bones, and the bones of the swimming paws, with some smaller bones, likewise some bones of the ear, particularly the mastoid process, which is remarkably hard, and somewhat of the shape of a large shell of the genus cypraea, for which it was at first mistaken. Some of the ribs are 10 feet in length; and it is remarkable that one of them had been broken and healed again, being, as usual, much thicker at the place of fracture. The bones are in general firm, and in a state of good preservation, excepting the jaw bones. These last were immured chiefly in the dry bank upon the side of the ditch; and upon exposure to the air, the cellular structure speedily fell to powder. Bones of equally open structure, which lay in the sludge remain very entire. There were found close by the skeleton two pieces of stag's horn, one perforated. The lovers of natural history are under great obligations to Sir Robert Abercromby, for the attention he paid in searching for and securing the bones of the skeleton. It may be added that he has in the most polite and handsome manner presented the whole to the museum of the University of Edinburgh, where they are now deposited." Such was the account written in 1819. Anxious to find out the present location of the remains of the Airthrey whale, I wrote to Dr Traquair, of the Museum of Science and Art, Edinburgh, for information. He writes me that the Old College Museum was handed over to the Government, and formed the nucleus of the Natural History Department of the Museum of Science and Art, but that there is not a bone of the Airthrey whale there, though they are usually credited with having it, nor is there any reference to it in the Old College Museum Register. There are certain cetacean remains in the museum, but these, Dr Traquair is certain, belong to the Blair Drummond whale.

Mr D. Milne Home, in his "Ancient Water Lines," in a foot note on page 33, mentions that in September, 1863, he saw some of the bones of this whale in the Stirling Museum, with a label attached, from which he gives certain extracts, beginning, "Part of the skeleton of a whale, upwards of 70 feet long, found in 1819 at Airthrey, embedded in the blue silt under the clay." Then follow certain particulars evidently taken from Mr Bald's account above quoted. The collection of the old Stirling Museum is now in the Smith Institute, and Mr

Sword was good enough to give me a perusal of the manuscript catalogue which accompanied the collection when transferred. It contains the following entry:—"Part of a skeleton of a whale found at Airthrey In 1839" (evidently a mistake for 1819). Then follows a transcript from the Statistical Account of Logie Parish, which in its turn had also been derived from Mr Bald's paper. In the Smith Institute there is a heap of whale bones,—ribs, vertebrae, and plates. Every one of these I carefuly examined, but on only one of them is a label, and it refers to the Cowpark whale, which I shall mention shortly. If, therefore, any parts of the Airthrey whale are in the Smith Institute, they are mixed up with the remains of the Cowpark whale. I have been unable to trace them farther.

Blair Drummond Whale.—This skeleton was discovered on Blair Drummond estate in October 1824, at a place about three fourths of a mile from the parish church of Kincardine, and nearly a mile from the present course of the river Forth. It was found on a stratum of moss four feet below the clay. The bones were imbedded in the clay, and did not penetrate into the moss below. Along with the bones was found a fragment of a stag's horn, similar to that found with the Airthrey whale, and having a similar round hole bored through it. (H. H. Drummond in Mem. Wern. Soc., vol. V., page 440.) "The rude harpoon retained, owing to the preservative nature of the moss, some remains of the wooden handle by which the pointed lance of deer's horn was wielded." (Wilson's Archaeology and Prehistoric Annals of Scotland, page 33). Dr Traquair is certain that the remains in the Museum of Science and Art belong to this whale. These consist of a portion of a large skull, a scapula and a few vertebrae, which correspond with the bones found at Blair Drummond as recorded in the paper by Mr Drummond to the Wernerian Society. The species is Balaenoptera Sibaldii.

Woodlane Whale.—The remains of a whale were found at Woodlane on Blair Drummond estate. My informant is Colonel Home Drummond, who has one of the vertebrae in his possession at Blair Drummond Castle.

Cornton Whale.—This skeleton was found in 1864 at the Cornton Brickwork, just under or adjoining the present large square chimney stalk. It was found at a depth of about 6 feet beneath the surface. The remains were buried where they were found with the exception of the ear bones and some others

which were taken by a gentleman from Alloa. This information was got from a labourer who helped to dig out the bones. The situation is marked on the Geological Survey Map. Mr D. Milne Home found along with the remains a stick having the appearance of the handle of an ancient implement.

Cowpark Whale No. I. (1859).—In "The Estuary of the Forth," page 26, Mr D. Milne Home says—"At Stirling in a field now occupied by Mr Christie's brickwork, a whale about 40 feet long was found in the year 1859 in the sleech below the brick clay. Another was found in the same field in 1863. Both of them were about 15 feet above high water mark." In "Ancient Water Lines," page 34, the same author says—"At Christie's brickwork, Stirling, two whale skeletons were found about 15 feet above high water. Mr Milne Home gives no authority for his statements as to this earlier skeleton found in 1859.

Cowpark Whale, No. II. (1863).—In the catalogue of the Old Stirling Museum, before referred to, occurs the following entry. "The vertebrae of a whale found in the brickwork of Messrs Christie, in the Cow Park, the property of Cowane's Hospital. It must have been 70 feet long. The reason of there being only a small portion shown, is because the room is not big enough to exhibit the whole skeleton." In the Smith Institute, among the heap of bones before referred to, is a *rib*, to which is fastened a label with the following inscription, "Part of the skeleton of a whale found at the Shore Brick Work, Stirling, in 1863,—10-12 feet below the surface of the ground, and 5-6 feet above the present high water level."—A considerable portion of one of the Cowpark whales is preserved in the Anatomical Museum of Edinburgh University.

Meiklewood Whale.—This was the most recently found of all the whale remains. It was discovered in the summer of 1877, on the farm of Woodyett, on Meiklewood estate, and was seen by several members of our society. The skeleton was not complete. It lay on a layer of moss about six feet from the surface, in the second field east of the road leading to Meiklewood House, on the north side of the railway, and about 140 yards west of the river Forth. Beside it was found a perforated deer's horn implement. The remains were preserved, and they have now been added to the collection of our society in the Smith Institute, through the kindness of Mrs Dalrymple Duncan. The bones exhibited are part of the skull, and several vertebrae and ribs.

West Carse Whale.—When the turnpike road from Stirling to Gargunnock was being formed in the beginning of the century, the skeleton of a whale was discovered on the farm of West Carse on Touch Estate. The situation where it lay is partly under the road, and partly in a field to the south. There is a slight hollow in the field towards the bank of a small stream which, coming from the hills, crosses the road a field's breadth to the east of West Carse farm steading. It was in this hollow, on the east side of the stream, that the remains were found. The skeleton lay north west and south east at a considerable angle to the road, and was 50 feet long. My informant is Mr James Johnston, Baston Cottage, Touch, who derived the above information from his father many years ago, and who pointed out the place to me. In "Ancient Water Lines," page 34, Mr Milne Home states that near Gargunnock, about 4 miles west of Stirling, in 1817, a whale skeleton was found, 33 feet above high water. The same author in "The Estuary of the Forth," page 26, mentions that about the year 1787 a whale was found "about four miles west, viz., near Gargunnock," and that his information was derived from Mr Forsyth, postmaster, Gargunnock. I take it that these references apply to the West Carse whale, and that the date last mentioned is a mistake.

Dunmore Whale No. 1 (1817).—In the Statistical Account of the Parish of Airth, published in 1842, we read, "In 1817 when cutting the present line of road which leads from Airth to Stirling, the workmen came on the skeleton of a whale. The skeleton was found to the north of the mansion-house of Dunmore Park, and upwards of a quarter of a mile from the bank of the river. It was traced to the extent of 75 feet."

Dunmore Whale No. II. (1846) and *Dunmore Whale No. III.* (1857).—"To the north of Dunmore the skeletons of two whales, one of them 85 feet long, were found in the years 1846 and 1857, each 3 or 4 feet below the present surface, about 20 feet above high water mark, and three quarters of a mile from the sea." (D. Milne Home "Estuary of the Forth" page 26). "The exact position in which one of these Dunmore whale skeletons lay, was noted by a gentleman, who at the instance of the late Professor Jameson of Edinburgh University, went to examine it. He states in a letter to the Professor that the tail lies in a north-easterly direction from the head, and just in such a situation as the animal would probably acquire had it run

aground when coming up the estuary. By measurement it has been ascertained that the place where the remains lie is between 23 and 24 feet higher than the highest tide of the Frith at present." (D. Milne Home "Ancient Water Lines" page 32, quoting Edin. Phil. Journal, vol. xi., page 416). Sir Daniel Wilson in his "Archaeology and Prehistoric Annals of Scotland," page 33, mentions that "several bones of a whale discovered at Dunmore Park, Stirlingshire, in brick earth, were nearly 40 feet above the present level of the sea." Wilson's book was published in 1851, and the reference evidently applies to the remains found in 1846.

Falkirk Whale.—"In the Parish of Falkirk, several interesting organic remains have in recent years been found, particularly part of the skeleton of a whale, 18 inches below the surface of the ground, about 3 miles from the sea." (Fullarton's Gazetteer of Scotland, under heading "Falkirk.") "Lately when digging clay at the Earl of Zetland's brickfield, about 3 miles from the sea, the vertebra of a whale was found 18 inches below the surface. It measured a foot in length by nine inches in diameter." (Statistical account, Falkirk, 1842.) These evidently refer to the same fossil.

Grangemouth Whale.—In the transactions of the Geological Society of Glasgow, vol. iii., part II., 1869, page 367, we read that Mr John Burns exhibited part of the vertebra of a whale which was found in the Carse of Falkirk in a bed of clay, 9 feet from the surface and 12 feet above present high water level. "In the course of excavations at Grangemouth two vertebrae of a whale were discovered imbedded in the clay." (Statistical Account of Stirlingshire.) "At Grangemouth the bones of a whale were found at a depth of 8 or 10 feet below the surface." ("Estuary of the Forth," page 26.) All these references I take to apply to the same remains.

These are all the whale remains found in the Carse of Stirling which I can distinctly trace. I have been informed of the finding of such relics at Ballinton near Thornhill, and also near Cambus; but in regard to these I can get no definite information. It is perhaps right to mention that at Coldoch House there is a great quantity of bones of a whale, about which nothing is known beyond the local tradition that they were brought there, whence no one knows. They consist of the jawbones, which are erected to form an arch over a gateway, besides vertebrae, &c. They may be the remains

of a skeleton found in the Carse, but it is quite possible that they are not fossil, and have been brought from foreign parts. The fact that several members of the Coldoch family were sailors lends colour to the latter suggestion.

I think it right here to clear up a matter about which there seems to be some misapprehension. In the course of my investigations, I have been repeatedly told of the finding of the skeleton of a whale at Forthbank, Stirling. On strict inquiry I can find no information of any whale remains ever having been found in that locality. The explanation seems to be this. A good many years ago, the late Mr Christie of Forthbank brought from Leith a number of large whale bones for the purpose of making gateposts. They do not seem to have been fossil at all. They were erected at Forthbank, where some of them may be seen to this day. Stories of whale skeletons having been found in the Carse being current, these, without investigation, have been set down as fossil relics. One of them has had rather a curious history. It was removed from Forthbank to a field at Cornton, where it was erected and used as a straining post. Its appearance of stability caused it to be fancied by a young farmer in the neighbourhood, and it was lifted and converted into a garden seat. In this situation it was observed by a member of our Society, who captured it as part of the Cornton whale, and conveyed it to the Smith Institute, outside of which it now reposes with a reputation for antiquity which I am afraid is not warranted.

ARCHÆOLOGICAL RELICS.

That man was an inhabitant of Scotland at the time when the ocean covered the whole of the Carse of Stirling, is proved by the frequent remains of his presence which have been found. We learn something of his occupations from the implements which have been discovered lying beside the skeletons of whales, which he perhaps destroyed. We learn something of his mode of life from the canoes which have been preserved, and of his food from the kitchen middens, where he cast aside the remains of the shell fish, which had formed his frugal repast.

Implements.—When the Airthrey whale was found in 1819, there were discovered lying by it, two pieces of stag's horn, through one of which a hole about an inch in diameter was bored. (Bald, Edinburgh Phil. Journal, 1819, page 396.)

In 1824, beside the Blairdrummond whale, there

was got a fragment of deer's horn said to be similar to that found with the Airthrey whale, and having a similar hole bored through it. Mr Home Drummond, writing to Mr Milne Home, mentioned that a small piece of wood was found in the hole of the horn, which fitted it when found, though it had since considerably shrunk. ("Estuary of the Forth," D. Milne Home, page 26.)

No trace of any of these pieces of stag's horn can now be obtained, nor any fuller description of their appearance. Subsequent writers repeatedly refer to them as lances or harpoons, but as Sir William Turner points out (British Association Report, 1889, page 790), the brief statements about them by their discoverers scarcely justify this inference, for in the fitting of a handle into either of such weapons, a hole would not be bored through the weapon, but into one end of it.

When the Meiklewood whale was discovered in 1877, there was found "resting upon the front of the skull, and lying vertically in the blue silt, an implement made of the horn of a red deer, which possessed the following characters:—It was 11 inches long and 6½ inches in its greatest girth. It consisted of a portion of the beam of the antler immediately above the frontal burr and brow antler, and included that part of the beam from which the tine second in order from the frontal burr had sprung. The tine had been broken off, and a hole had been bored at that spot, completely through the thickness of the beam, 4 inches from one end and 7 inches from the other. The greatest circumference of the implement was at that part through which the hole was bored, and here it was slightly curved. The aperture where it opened on the convexity from which the tine had sprung, was oval and elongated in the long axis of the beam, its dimensions being 1¼ inch by ¾ inch; on the opposite aspect the aperture was almost circular and ¾ inch in diameter. The shorter segment of the antler was truncated, and shaped so that it could have been used as a hammer. The opposite end was bevelled and smooth and polished to a sharpish edge, like that of an axe or chisel. In the process of forming this edge, one side of the antler had been rubbed down much more than the other, so that the edge was formed by the hard solid part of the antler. The smooth shining surface of this edge contrasted with the rough tuberculated appearance of the rest of the antler. A piece of wood, 1¾ inch long, occupied the hole in the antler,

Though much shrunk, so as not to fill it, it was obviously the remains of a handle with which the implement had been provided. The circular shape of the hole on one aspect and its oval form on the other lead one to infer that the handle had been a circular stick, secured in the hole by wedges of wood, after the manner in which the handle of an axe is now fitted. From the hole not being midway between the two ends, the implement was not evenly balanced, and the bevelled end was longer than the hammer shaped extremity, The selection of the end of the antler furthest from the frontal burr for the formation of the bevelled edge enabled the maker to obtain a denser part of the horn for the cutting edge. When used with a handle the bevelled end could be employed as an axe, and without the handle it could be used as a chisel." (Professor Sir William Turner, British Association Report 1889 page 790). Sir William Turner has little doubt that the implements found along with the Airthrey and Blairdrummond whales corresponded in shape to that just described.

About a month after the Cornton whale had been discovered in 1864, Mr D. Milne Home went to the place and saw some of the bones still *in situ*. He drew out from amongst them, and rather from under them, a stick about 1 foot in length, which had the appearance of having been the handle of an implement. It was evidently very ancient. ("Estuary of the Forth" page 26)

Canoes.—Nearly twenty years ago, a canoe was discovered in the course of certain deepening operations in the bed of the Forth. It was found a short distance below the Abbey ferry. Whether it was imbedded in the silt of the river or in the clay of the carse, I have been unable to ascertain. The canoe is now preserved in the Tower of Cambuskenneth Abbey. It consists of one piece, and has been hollowed from the solid trunk of an oak tree. Most probably the hollow was made by charring. The wood is black in colour but well preserved. As it exists now, the canoe is 19 feet, 3 inches long. When entire it would measure over 21 feet from end to end. The breadth must have been between 4 and 5 feet at the middle narrowing towards the ends. The bottom of the canoe inside is flat, and outside the shape is simply the natural curve of the tree which must have been a very large one. At different places the bottom is pierced with holes of circular shape. These must have been filled with plugs, for the purpose of running off, while on shore.

the water shipped, or to sink the canoe among the reeds so as to hide it from enemies or thieves, a practice, I believe, still followed in regions where the rights of property are imperfectly understood. Canoes have been occasionally found with the plugs still filling the holes, but in the case of the Cambuskenneth canoe they do not seem to have been preserved.

"A canoe, hollowed out of a single oak tree, and measuring 36 feet in length by 4 feet in breadth, was exposed to view in the Carse of Falkirk by the undermining of its banks by the river Carron. It lay at a depth from the surface of fifteen feet, and was overlaid with successive layers of clay, shells, moss, sand, and gravel. Another canoe was dug up near Falkirk at a depth of 30 feet from the surface" ("The Great Ice Age," Professor James Geikie, 2nd edit. page 301.)

In January 1865 in the course of certain operations at the premises of Messrs Menzies & Co., drapers, in King Street, Stirling, a portion of a canoe was found about 3½ feet from the surface. It was of black oak and in one piece. Inside it an iron ball was discovered. The relic was found at far too high a level to justify us in claiming it with certainty as a relic of the 50 feet raised beach. In any event it must have been carried up the hill and buried in the situation where it was found. I merely mention the matter here, as I think it worthy of note before the fact of the discovery is quite forgotten.

In the raised beaches of the Clyde Valley, similar in most respects to those of the Forth Valley, canoes to the number of not less than twenty have been found, many of them under the streets of Glasgow.

Human Remains—"The only recorded instance of the occurrence of human remains at any considerable depth in the old carse lands is that of a skull which was dug up in 1843, 21 feet from the surface at Grangemouth." ("The Great Ice Age," Prof. James Geikie.)

Kitchen Middens.—One of the most interesting relics of the human population of the shores of the old Forth estuary is the line of kitchen middens which runs along the bluff of the old coast line for half a mile or so on either side of where the river Avon enters the carse. "A section across a heap fifty yards long by twenty wide was exposed in a road cutting, and showed many successive layers of shells—principally oysters—to a depth of three feet without the bottom being visible. The remains of

fire places were plentiful among the shells. Oysters seem to have been preferred by the makers of the midden, though they had also used the *Anomia*, the big "horse mussel" (*Modiola*), the common mussel (*Mitylus edulis*), the whelk (*Buccinum undatum*), periwinkle (*Littorina littorea*). Fragments of the large edible crab (*Cancer Pagurus*) were also present. All the valves of the oysters were separate except such as had been empty, and which still had barnacles or zoophytes in their interior. The mussel and other shells were found in separate nests, and not indiscriminately throughout the mound. Layers of sand were also found among the shells. All the middens observed occur on the bluff itself or just at its base, as if, when it was the limit of high water, the people who formed the middens, after searching the shores during low water, had retreated thither to enjoy their feast while the tide covered their hunting ground. Few or no oysters are now found in the Forth above Borrowstounness." (Memoirs of Geological Survey Sheet 31.) It is interesting to notice that the name "Inveravon" is still applied to the place where the Avon enters the carse (the old mouth of the river), although the stream now follows a course of several miles before entering the present firth.

Age and Climatic Conditions of Formation.—The 50 feet beach was formed entirely in post-glacial times, and during the re-elevation following the period of submergence which finally separated Britain from the continent of Europe. ("The Great Ice Age," Professor James Geikie, page 331.) The shells and other relics found point to a temperate climate, rather colder, however, than the present. Professor James Geikie says that no decided traces of ice-action have been detected in the deposits belonging to this raised beach. The small boulders occasionally found in the clay would seem to point to the transporting agency of icebergs, but these may have been simply washed out from older glacial beds, and we must remember that we have also the carrying power of the human race to reckon with as a factor in the problem. Sir Archibald Geikie at one time stated his opinion that the last upheaval of Scotland, to the extent of 25 feet, occurred after the period of the Roman occupation. This view was published by other geologists on the authority of Sir Archibald's opinion. It seems to have been a mistake, the result of inaccurate information, and apparently is not now the belief of its originator. On the whole, there does not seem to be sufficient

evidence to establish the theory that the sea stood 25 feet higher during the Roman period than now. The fact that Roman roads and other works have been frequently discovered at levels which, in these circumstances, must have been perpetually under the sea, cannot be explained on any other footing than that the relative levels of land and sea have not materially altered since the beginning of the Christian era. For a full discussion of the question, see "Supposed Upheaval of Scotland," by Mr David Milne Home (Trans. Royal Society, Edinburgh, volume 27, page 39). The 50 feet raised beach belongs to the Pleistocene formation geologically, and to the Neolithic period archæologically.

THE 100 FEET RAISED BEACH.

POSITION AND EXTENT.

The 100 feet raised beach may be said, roughly speaking, to surround the 50 feet raised beach. It does not, however, do so continuously, being frequently absent, particularly towards the west. It is an ocean floor of older date than the 50 feet raised beach, and whatever its original extent, the parts of it that now remain are only fragments. The sea when it covered the carse made extensive inroads into its surface, at places sweeping it away entirely where the current was strong or the material soft and yielding. It is thus frequently noticeable that where a rocky promontory stretches into the 50 feet beach, the 100 feet raised beach is wanting, having been swept away, while in quiet recesses between these promontories it has remained undisturbed.

The 100 feet raised beach covers a considerable area in the platform on which the Lake of Monteith now lies, situated between the steep front of the Monteith hills and the carse. Between that and Blairdrummond it occurs in narrow patches or strips skirting the carse. It next appears in the terrace upon which the higher parts of Bridge of Allan are built, stretching eastward, including Airthrey Park, to Logie Old Church and the Abbey Craig. It is again seen in the neighbourhood of Alloa, part of which is built upon its level, continuing eastward in a strip roughly parellel with the carse towards Culross, beyond which an arm stretches inland as far as East Grange.

On the south of the carse it appears in strips and patches from Buchlyvie to Gargunnock. As Cambusbarron is the beginning of one of its most exten-

sive developments, all the village, except the higher part, is built on its level, as are also Douglas Terrace, Park Place, and all the southern portion of Stirling from Snowdon Place to Royal Gardens, including the building in which we are now met. The eastern portion of the King's Park is a good example of the 100 feet terrace. It then passes in a strip past St Ninians and Bannockburn, until at Stenhousemuir it broadens out in the extensive flat on which the famous Falkirk trysts are held. Crossing the valley of the Carron, which has been hollowed out of its surface, the 100 feet beach extends from Bonnybridge past Falkirk to the village of Laurieston. The famous "Hills of Dunipace" are relics of the 100 feet raised beach which have been left in loops of the former course of the river Carron. The Carron has washed away all the surrounding strata, and the "Hills" remain as monuments of fluviatile denudation. Notice should perhaps here be taken of the alluvial cones along the foot of the Ochils at Menstrie, Balquharn, Alva and Tillicoultry. These are deltas of the old Forth Estuary, and are formed of detritus carried down by the streams from the hills, and deposited in the sea. Since the sea retired, the streams have cut deeply into the cones, exposing at places sections of their structure. Advantage has been taken of their surface, lying above the level of the carse swamps, for the situation of the villages named. The turnpike road passes over the lower slopes of these cones, and it is noticeable that the road rises in level as it enters any of the hillfoot villages.

LEVEL.

The 100 feet raised beach does not present anything like uniformity of level. Still, when viewed from a distance or from a height, its terraced appearance shows very distinctly. Everywhere it has been worn down into valleys and hollows by the action of streams and springs, and as the strata show considerable variety of material, the process of denudation has been very unequal. The surface has been exposed to the action of the denuding agencies for a much longer period than the 50 feet beach. As in the case of the 50 feet beach, the level rises from east to west, and from the boundary facing the carse towards the upper limit. Generally speaking, the 100 feet contour line passes along its surface, the lower portions being under that level and the upper portions reaching to 120 or 130 feet above sea level.

BOUNDARIES—THE OLD COAST LINE.

The 100 feet beach is bounded towards the carse by the old coast line of the 50 feet beach, which has already been traced. Its upper limit is marked by an older coast line, which in most places is still distinct, although in others it has been quite effaced.

Round the Lake of Menteith, the present shore of the lake may be taken as the old 100 feet coast line. Towards the western end of the lake, however, the stretch of flat land is part of the raised beach, and the coast line can be traced round it. In the neighbourhood of Thornhill the two coast lines—(50 feet and 100 feet)—can be seen at various places converging and separating. At Coldoch House, the double line is easily traceable. At Bridge of Allan, the 100 feet coast line begins at Sunnylaw, passing eastward by the base of the hill behind the Hydropathic, Logie Manse, and Blawlowan, and following very much the line of the old road through Airthrey Estate to Logie Church. All along here, the coast line rises in a steep cliff, and traces of the wearing action of the waves on the rocks are not wanting. Behind Logie Old Church, the line follows the base of the cliffs till the carse is reached, where the two coast lines converge. A line drawn from Craigton farm to Holehead farm would mark the western shore line of the Abbey Craig, which was an island in the ancient sea. The line passes through the village of Tullibody, and then proceeds eastwards past Alloa, following an exceedingly winding course, stretching repeatedly inland in long narrow bays. From the railway between Alloa and Kincardine Stations the coast line is well seen both to north and south. The hill on which Clackmannan Tower is built is another ancient island. Thence to Culross, the coast line is almost parallel with the 50 feet line and situated a short distance back. It passes just under the old Abbey Garden at Culross. At Torryburn, the coast line bends suddenly to the north-west, running about 3½ miles inland to near Bogside Station. From the railway between Bogside and East Grange, the coast line can be well seen. It then proceeds south-east until the eastern termination of the inlet is reached. Beyond this, it appears distinctly at Crossford and near Dunfermline, but farther than that we need not trace it.

In the vicinity of Buchlyvie Station, the 100 feet coast line can be seen winding out and in. As we proceed eastward, it can be traced at various places, for example to the south of Leckie House and

Gargunnock House. Behind Touch House the line again begins, and passing behind Gartur House it sweeps first across the highroad, and then follows it through the village of Cambusbarron. By Butterflats and Laurelhill it passes on to Beechwood, after which the line becomes very indistinct for a considerable distance and its direction can be only approximately stated. It must have followed pretty much the line of the present Main Street of St Ninians (the hollow in the village being caused by the stream), as it can again be distinctly seen alongside the highroad from St Ninians to Bannockburn. The sea at this part must have been studded with islands, for Hillhead, the King's Park Cliffs, Craigforth, Stirling Castle Rock and the Abbey Craig all reared their heads as islands above the waves. In the King's Park the old coast line followed a curve from the top of the road to the east of the farm house round by the cliffs to the corner of the park opposite the Elms. The circuit of the island was completed by another line connecting these points and following very much the track of the old race course, except at its western end, where the course goes above the old coast line. In the King's Park, strata of sand and gravel underlying the turf mark the 100 feet raised beach. Wherever the hard whin rock crops through, the surface is above the level of the beach. The dividing line between the sand and the whinstone is the old coast line. The Stirling Castle Rock was an island similarly shaped. From the upper part of Raploch the coast line comes east by the low Back Walk behind the Smith Institute and Albert Place, underneath Allan Park Church, within a few yards of where we now are, and so by Dumbarton Road into Port Street. In the town, the coast line cannot now be traced accurately, but it must have followed a track at a slightly higher level than the 50 feet coast line which has already been indicated.

From Bannockburn the line sweeps round towards Larbert, following a somewhat winding course in the neighbourhood of Plean. It can be seen for a considerable distance from the railway between Bannockburn and Larbert. South of the Carron, the coast line sweeps behind Bonnybridge and Camelon, through the town of Falkirk and on to the village of Laurieston.

FORMATION OF STRATA.

The strata of the 100 feet raised beach consist of alternating beds of clay, gravel and

sand. They stretch right under the strata of the 50 feet raised beach. Consequently, bores made in the carse show the strata of the 100 feet underlying those of the 50 feet raised beach. Openings in the strata are of frequent occurrence, as the sands and gravel make capital building material and are quarried for that purpose. There are many railway cuttings through the formation and many sand quarries where the strata are laid bare. The sand quarry at the end of Douglas Terrace may be taken as showing in its different stages typical sections of the strata of the 100 feet raised beach. These consist of alternating layers of sand and gravel. The sand beds are usually 10 feet in depth or less; the gravel beds seldom exceed 2 feet deep. In the sand lenticular patches of gravel are frequently enclosed. Occasionally a layer of tough clay of dull purple colour occurs intercalated with the sand and gravel beds, and recently a thin layer of white clay was exposed. The strata lie in distinct layers, which, however, are much contorted. The phenomenon of false bedding is very frequent, showing that the sands were deposited in a shallow sea which was much vexed by shifting currents. The gravel consists mostly of pebbles several inches in diameter, though sometimes as large as 18 inches. All are rounded and water worn. They consist of schists, grits and quartz pebbles from the highland metamorphic rocks, sandstones with occasional pieces of indurated clay from the Old Red Sandstone, porphyrites similar to those of the Gargunnock Hills, and occasionally, but rarely, fragments of Lower Carboniferous shale showing fossil shells. The great majority of the pebbles are from the highland series, and the Old Red Sandstone, in about equal numbers, but it must be remembered that many of the highland rocks may be, and most probably are, pebbles derived from the Old Red Sandstone conglomerate. Mr Kidston has handed me certain pebbles from this quarry showing a metaliferous deposit on the surface.

FOSSILS.

The strata of the 100 feet raised beach are singularly devoid of organic matter and organisms.

Vertebrata.—In the prolongation of the clays of the 100 feet beach under the carse at Grangemouth, bones of a seal were got, considered by Professor Turner to be those of *Pagomys fœtidus* (Mem. Geol. Survey Explan. Sheet 31). These were 80

feet below the surface and about 68 feet below sea level. Similar remains were also found at Camelon in a bed of clay 90 feet above the level of the Firth of Forth. ("Great Ice Age" 2nd edition page 682).

At Camelon and Grangemouth, remains of little Greenland flea rats have been exhumed from the folds of the red clay correlated by the Geological Survey with the beds belonging to the 100 feet raised beach. (H. M. Cadell, Trans. Geol. Soc. Edin. 1881.)

Shells, &c.—"Fragments of shells usually of an arctic type are also occasionally found along with a few foraminifera." Mr Cadell received part of a calcareous concretion which had been dug out of the surface of the red clay while the excavations for the south dock wall at Bo'ness were being made. "It was originally about a foot in length, and bore a rude resemblance to a stag's horn. Part of it which was encrusted with small shells was submitted to Mr David Robertson, F.G.S., Glasgow, who kindly examined it and found the organisms to be chiefly the young of *Cardium edule* (cockle), also *Tellina*, apparently *T. balthica*, and *Hydrobia ulvæ*, none of which are characteristic arctic forms. The shell of a hazel nut which was also embedded in the mass, rendered it still less arctic in appearance." (H. M. Cadell, Trans. Geol. Soc. Edin. 1881.) From mud adhering to the bones of the seal found at Grangemouth above mentioned, Messrs Robertson & Crosskey obtained *Polymorphina compressa*, *Nonionina stelligera*, and *Cytheropteron Montrosiense*. ("Great Ice Age," page 663.)

AGE AND CLIMATIC CONDITIONS OF FORMATION.

The 100 feet raised beach was formed at the close of the glacial epoch, during the period of elevation by which Britain was connected with the continent of Europe. ("Great Ice Age," Prof. James Geikie, pages 331 and 564.)

The clays of the 100 feet raised beach are described in the Memoirs of the Geological Survey as made up of "the flour of rocks, true ice formed mud carried from inland glaciers by streams and deposited in the quiet waters of the Firth." The crumpling and folding of the sands and clays near Larbert are considered to be caused by the stranding of sheet pack ice on the sand and mud banks of that period.

According to Professor James Geikie ("Great Ice Age,") Palæolithic man had disappeared from Britain during the last cold period of the glacial age, and

Neolithic man did not appear until the subsequent upheaval when Britain was joined to the continent. If this view be correct, man was not an inhabitant of these regions at the period when the 100 feet raised beach was formed. That period was intermediate between Palæolithic and Neolithic times.

SUMMARY.

Before concluding, I give a summary of the different phases of elevation and depression in post glacial times, during which the raised beaches were formed. For present purposes it is not material whether these changes were caused by the retiral of the sea or by the elevation of the land. For a full consideration of that question. I would refer to the address by Professor James Geikie, to the Geographical section of the British Association, at Edinburgh, in the present year. The following appears to have been the general succession of changes from glacial to recent times.

1. Glacial age, in successive periods; at some time during which, Palæolithic man lived in Britain, but had disappeared before its close.

2. Period of submergence, during which the deposits of the 100 feet raised beach were laid down. Glaciers existed in the mountain valleys, and ice rafts abounded in the seas, causing, when they stranded, the crumpling and folding of the strata.

3. Elevation of the land, and formation of the 100 feet raised beach. The 100 feet coast line was cut out at this time.

4. Further emergence, by which Britain was joined to the continent of Europe. This is probably the period when the trees flourished, whose remains are now found underlying the brick clay of the Carse of Stirling. Neolithic man appeared, having travelled westward from central Europe. The climate was continental in character.

5. Submergence. The brick clay of the carse was now laid down, and the 50 feet coast line cut out. The climate was insular and slightly colder than at present.

6. Emergence. The coast line of Britain now became much the same as at present. The river Forth formed its course along the plain, and the peat mosses of the carse were formed.

7. The present.

CONCLUSION.

Such then is a general account of these wonderful plains of the Forth Valley. I have examined the

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7. The present.

CONCLUSION.

Such then is a general account of these wonderful plains of the Forth Valley. I have examined the

facts and stated them as carefully as possible, and now let me draw a brief picture of these far distant times. It is only after a careful, often perhaps a laborious collection of facts, that we are entitled to give play to the fancy, although geology is an imaginative, as well as a logical study. It is strange to think of the many changes in the landscape of a district which the study of geology reveals. Where now we see a rich and fertile country, dotted with farm houses, and covered with fields of waving grain, the blue waves of the ancient ocean once rolled. We can picture the primeval man of the time slowly hollowing out by fire the stem of the oak tree laid postrate by the winter blast, and constructing those rude canoes in which he paddled on the waters of the estuary. We can fancy the excitement in the community when some monarch of the deep was stranded in the shallows of the firth, and their efforts to kill and secure him with their rude weapons of deer's horn. An earlier time there was, when our western hills were mantled in perpetual snow, and when from the valleys there flowed the sullen, white glaciers, whose bergs were floated over the submerged land out to the distant ocean. It is the opening up of these vistas of the past, enabling us in imagination to picture the landscapes of those far distant times, which makes geology so attractive as a study, and entitles it to be ranked as one of the most fascinating pursuits in all the wide realms of science.

AN OLD CHURCH PLATE.

Dr Galbraith, at the conclusion of Mr Morris's paper, exhibited the old church plate, referred to in the paper he read at the last meeting of the Society, a report of which had appeared in the *Stirling Journal*. It had been in use by the Episcopal congregation for more than a century, but how it had come into the possession of the church he could not say. He thought the members of the Society would like to see the plate, and perhaps enquiries might be made in regard to the traditions of the vessel. In the account of the fire at the Old Church of Arbroath, which was burned down on Monday morning, mention was made of two ancient bronze offering plates having been saved from the fire, of a similar character to the one now before them. He was of opinion that the figures on the plate were symbolical,

and those who had read reports of the Rhind lectures would no doubt be of the same opinion.

Rev. Mr THOMSON said that when he was a boy he remembered of having seen a similar offering plate at Blairlogie.

Dr GALBRAITH—Is it there yet?

Mr THOMSON—No; but I will enquire about it.

A short discussion afterwards ensued about the figures on the plate.

On the motion of the Rev. Mr Robertson, a hearty vote of thanks was awarded Mr Morris for his excellent paper.

The monthly meeting was held in the Y.M.C.A. rooms on Tuesday evening, 20th December, Mr MacLellan, High School, presiding. Mr Gilbert MacDougall, read a paper entitled "Notes on the Conchology of Clackmannanshire and Southern Perthshire," and exhibited a collection of shells from that district. Mr Robert Kidston then exhibited a series of dried specimens of pondweeds of the genus *Potamogeton* consisting of species found in the botanical county of Stirling, and certain species likely to be found but not yet recorded. Mr Kidston made interesting explanatory remarks on the specimens, dealing principally with the causes of the different habits of growth of the plants and with the characteristics of certain hybrids shown. On the motion of Mr M'Lellan, a vote of thanks was accorded to Mr M'Dougall and Mr Kidston.

Mr G. M'Dougall, read his paper as follows:—In taking conchology as my subject for this paper, I do so, not with a desire to cross the path or forestall the labours of others. It will be remembered that a few years ago in rearranging our district, it was agreed that the watershed of the Forth was to be our hunting ground. Since that arrangement was agreed to, it has come to our knowledge that that embraces nearly two botanical divisions or counties with the Forth as the dividing line. The vice-comital division south of the Forth called Stirlingshire (No 86) is looked after by Mr M'Lellan, and will be reported on by him. I propose (if no other member has already taken up the work) devoting attention to what remains of our original district, Clackmannanshire and that part of Perthshire which extends from the river bed of the Forth

to the watershed between its tributaries and those of the Tay. This is known as vice-county 87. South Perth embraces a region of lofty mountains, lowland plains, rocky defiles, and enchanting woods where terrestrial specimens in abundance are, I hope, to be found. For aquatic species the sluggish river, the moorland burn, the majestic loch, and the mountain tarn furnish each its quota. It will therefore be seen that it is no light task to work up the division, to know how and where the different species are represented in it. The accompanying list of the genera and species that have been found is only an inception of the work to be done before a complete list can be tabulated for the district. I mention only those which have come under my own cognizance, previous records having served only as a stimulus to my exertions.

AQUATIC.

Class I.—Malacozoa Elatobranchia.—Shell a bivalve, the two valves of which are united along their dorsal margin by a ligament. Body oval, headless; mantle bi-lobed; foot, tongue-shaped, respiration performed by gills.

Order I.—Lamellibranchiata.—Gills four in number, leaf-shaped, arranged in pairs on each side of the body between the visceral mass and the body.

Family I.—Sphaeriidae.—Shell equivalve, subglobose; hinge with lateral and cardinal teeth. Body with one or two siphons at its anterior end. *Pisidium.*—Shell inequilateral. Creature with one siphon. *P. amnicum*, is found in mud, in the Forth, and Cornton and Lecropt burns. This is the largest *Pisidium* we have got. *P. pulchellum*, which some authorities place as a variety of *P. fontinale* and others again raise to the rank of a species, is generally diffused wherever there is a muddy bottom. *P. pusillum*, also very much diffused in stagnant or muddy streams. *P. roseum* has been found in but one spot, in a damp meadow west of Caledonian Railway, south of Lecropt burn. It was found in the summer when the marsh was dry, the shells lying on the top of the mud, sparkling like little rosy gems. The shell is very fragile, and requires to be handled with care if desired to be kept whole. I have found *Pisidia* upon dead leaves and pieces of wood which had fallen into the water; also if the vegetation was anything rank, I have seen them adhering to it.

Family II.—Unionidae.—Shell large, oblong, equivalve, inequilateral. Mantle lobes free all

round, except at the posterior edge, where they form two orifices, which are somewhat awl shaped. *Unio.* — Shell firm, solid cardinal teeth large, lateral teeth lamelliform. *U. margaritifer.*—The Forth and tributaries are famed for the produce of this shell, which, being worn and much prized by "Ladies faire" in various ornaments, well deserves its name, "Single-pearl shell."

Class II.—Malacozoa Gostropoda.—Shell univalve or none. Body with a distinct head, and two or four tentacles ; eyes situated at the extremity of the dorsal tentacles or at the base of them, respiration effected by gills or lung.

Order II.—Pulmonobranchiata.—Shell generally spiral and external, but sometimes as in *Limnaeidae* rudimentary and internal or wanting, respiration effected by means of a lung.

Family I.—Limnaeidae.—Shell spiral or hood shaped, mouth without teeth. Tentacles two, eyes sessile.

Planorbis.—Shell orbicular, flat, coiled nearly in the same plane, mouth semi-circular; tentacles two in number, very long; eyes sessile, foot oval, short. *P. spirorbis* is the one most diffusely spread of the whole genus, but as yet, it has been found by me only in one locality, an affluent of the Cornten burn where it passes my garden. I have no doubt it will upon farther investigation be found elsewhere along with some of the other species not yet collected. *Limnaea.* — Shell oval, thin translucent, mouth oblong, columella with an oblique plait. Creature with two short triangular tentacles bearing the eyes at their base, foot oval. *L. peregra* has been found in almost every stream. This is what I consider the commonest observable aquatic moluse we have, for although some of the *Pisidia* are very plentiful they are unobservable because they are mud shells. *L. palustris* has been found in but one locality in company with *Pisidium roseum.* It too was lying on the surface, but the creature had securely sealed itself from danger by an epiphragm so that it might lie safe until the rain should again fill the swamp and awaken it into life and activity *L. truncatula.*—For this species I have as yet but one locality from which to record it, but unfortunately my specimen is only a very tiny one. It was found in a stream which drains what was once a small tarn but now a swamp between Blair hill and Dumyat. A prolonged search might have secured more specimens, but when I reached that high altitude everything was

frozen and a snowstorm (beginning to fall) made me beat a hasty retreat to more congenial quarters. A few *Pisidia* were collected from the stream, but not until I got home did I observe my tiny specimen of *Limnaea truncatula*, or I would have prolonged my search and endeavoured to find others. *Ancylus.*—Shell conical, oblong, limpet-shaped; apex pointed and bent to the right. Creature with two cylindrical tentacles, with the eyes at their base, foot large. *Afluviatilis* is a very common snail in stony streams. It adheres limpet-like to the stones; but, as yet, it has only been observed in Lecropt burn, and the burn passing through Airthrey Carse.

TERRESTRIAL.

Family II.—Limacidae.—Shell placed under the mantle, granular or shield-like. Body united in its whole length with the foot beneath; tentacles four, cylindrical, the dorsal pair bearing the eyes; mantle shield-like. *Arion.* — Shell consisting of calcareous granules. Mantle shagreened, not striated concentrically; respiratory orifice placed on anterior half of mantle; tail provided with a slime gland. *A. ater* is the well-known large black slug. The shells noted by me are merely minute granules and are found under the mantle. *A. subfuscus*, a largish slug of a reddish-brown colour, has my own garden for one of its habitats. *A. bourguignati*, is whitish-grey and about 1½ inch long when full stretched. It is common. *Amalia.* — Shell oval or elliptical, mantle granulated, having the respiratory orifice on its posterior half; back keeled from tail to mantle, slime-gland absent. *A. gagates* is about 2½ inches long; found in Airthrey wood, Bridge of Allan. *Limax.* — Shell oval, oblong, quadrangular or unguiform. Mantle concentrically striated; respiratory orifice situated on posterior half of mantle; tail keeled, not the back; slime-gland absent. *L. flavus* is a slug of about 4 inches long when full grown. It frequent cellars and damp places. A few specimens have been collected in my own garden. *L. agrestis*, the common white garden slug, is here, there, and everywhere, where there is vegetation. *L. arborum*, is the tree slug. I have seen ash trees in glens covered with its slime; it feeds on decaying wood. *L. maximus*, is a beautiful creature, some specimens growing to 6 inches long. It is an inhabitant of cellars, gardens &c. A few specimens have been found in my own garden. *L. cinereo niger*, is another very large slug, growing to 6 inches long.

One specimen has been found underneath boulders on Abbey Craig.

Family IV. — *Helicidae*.—Shell spiral. Body distinct from the foot, tentacles four, retractile, cylindrical, the upper pair being the longest and bearing the eyes at their apices. *Vitrina*.—Shell subglobular, thin, flattened; mouth large and semilunar; umbilicus wanting. *V. pellucida* a beautiful glossy, glass-green, transparent shell of three to four whorls, is rather common among stones in moist places. *Zonites*.—Shell orbicular, depressed, umbilicated; mouth obliquely crescent shaped. *Z. cellarius* is common, underneath stones and about walls in damp places. The finest specimens I have found have been about my own garden. This is the largest *Zonites* we have that is common. Diameter $\frac{1}{2}$ inch. *Z. alliarius*.—This snail is easily distinguished from its congeners by the strong garlic perfume it emits when handled. It is not so large as *Z. cellarius*. Diameter $\frac{1}{4}$ inch. Found in Blair glen, and glen behind Montague Cottage. Blairlogie. *Z. nitidulus*, shell from $\frac{3}{8}$ to $\frac{3}{10}$ of an inch. It is frequently met with under stones among moss, and on old walls. *Z. purus*, is a smaller shell than the last. Diameter $\frac{1}{16}$ to $\frac{1}{8}$ of an inch. This snail when alive has two dark bands shining through the shell by which it can readily be distinguished from any other *Zonites*. *Z. crystinallus*, is another very small shell. Diameter $\frac{4}{25}$ths inch. It lurks underneath stones, among moss and decaying leaves; is generally distributed. *Z. fulvus* has been found in the wood above Bridge of Allan. Diameter, $\frac{1}{10}$th inch, spire much produced, resembling a small *Helix*. Under stones and among decaying leaves. *Helix*. — Shell globular, turreted, convex or flattened; mouth more or less circular or oval; outer lip generally thick and possessing an internal rib, sometimes reflected and provided with tubercles or teeth; umbilicus sometimes absent, but usually distinct. *H. aspersa*, is very common in some localities; but in our district we have been favoured with only one very small specimen, found at the foot of a wall outside of the wood behind Montague Cottage. *H. nemoralis* and *H. hortensis* frequent the same localities and bear a great resemblance to each other. *H. nemoralis*, the larger of the two, has a brown lip. *H. hortensis* has a white lip. A beautiful variety of this may be collected in the hedgerow on the south side of the Cornton Road beyond Forthvale Mill. *H. arbustorum* has a pretty marbled shell, brown marked with yellowish spots,

and a single dark band round each whorl. It is about the same size as *H. hortensis*, and has a white reflexed mouth. I found two specimens among stones at the water-fall at the top of Blair Glen, one higher up the hill at the foot of some debris, and a good many, mostly young, on the north side of the wall among leaves and moss outside of the wood immediately behind Montague Cottage. *H. hispida*, has a habitat among decaying wood in my own garden, and at the bottom of the wall in front of the Abbey Craig. *H. rotundata* is a very common species, being found almost everywhere, in hedgerows, underneath stones, and among decaying leaves. *H. rupestris*, a very minute shell, has been found among stones in Blair Glen, Westerton Quarry, and on front of Abbey Craig. *H. pygmæa*, a far minuter shell than *H. rupestris*, being only $\frac{1}{37}$ inch in height, has been gathered among stones in front of Abbey Craig. *Bulimus.*—Shell, oval or oblong-ovate; spire blunt, but much more prominent than in *Helix*; mouth an elongated oval; umbilicus very small. Tentacles shorter than in *Helix*. *B. obscurus*, a few specimens were found in Blair Glen and along hedgerows in Cornton. Shell oblong; whorls six and a half; mouth with a white reflected peristome; length $3\frac{1}{2}$ lines. Among moss or stone. *Pupa.* — Shell cylindrical or oblong, with many narrow whorls; mouth oval or lunate, generally toothed within; peristome incomplete, thickened, umbilicus very minute. *P. umbilicata* is widely diffused on old walls, under stones and among moss and dead leaves; height $\frac{4}{25}$ inch. I have also collected one specimen of its variety — the *edentula;* it is said to be common. *Vertigo.*—Shell dextral or sinistral, sub - cylindrical with closely pressed, gradually-enlarging whorls; mouth generally toothed internally; umbilicus minute. *V. edentula*, has also the Abbey Craig for its habitat. It feeds on moss, grass, and dead leaves; height $\frac{1}{7}$ inch. *Balia.*—Shell sinistral, elongated, thin; mouth ovate, sometimes with a denticle at the base of the penultimate whorl, umbilicus narrow. *B. perversa.*—Of this shell a specimen or two were gathered at the top of Blair Glen. *Clausilia.*—Shell sinistral, fusiform; mouth pyriform or elliptical, toothed, furnished with a clausilium; umbilicus very small. C. *rugosa* is generally distributed, found adhering to old walls, stones, logs of wood, &c. *Zua.*—Shell oblong or oblong oval, very glossy, transparent, mouth pear-shaped. *Z. lubrica*, one specimen was gathered at

the top of Blair Glen. It is also met with in Bridge of Allan wood.

Record:—Aquatic 10 } 40 in all.
Terrestrial 30 }

This is an addition of 15 to the record of South Perth and Clackmannan. There are three recorded, not yet found by me, which will bring the list up to 43. One of these, *Azeca (Zua) tridens* is not recorded from any other division in Scotland.

Why are species of Aquatic Mollusca so widely distributed, and why are they now found in places that years ago, to my knowledge contained no water, seeing they can neither fly nor crawl any distance when out of their element? At the edge of a field where it is now marshy I got *Pisidium roseum*, the only known locality as yet for this bivalve in Stirlingshire, and *Limnæa truncatula*. In a small pool in a gravel pit, which I remember being dug, I got *Pisidium pulchellum*. Also, in a well that a good many years ago was kept scrupulously clean, as it had to supply the domestic wants of a household, I found last autumn *Pisidium pulchellum* and *Limnæa truncatula*. It has occurred to me that waterfowl are the medium by which these creatures are so widely dispersed and carried to new localities. Their spawn is encased in a jelly-like mass and will adhere to the feet and feathers of these birds to be carried by them and deposited in the first water in which they alight. Then again, are snails and slugs carnivorous? Some kinds I have found to be so. I have often observed slugs feasting upon their dead relatives and and on dead or sickly worms. Not, however, until last summer was I aware of their feasting upon their weaker relatives. I put several specimens of *Ancylus fluviatilis* into a small rude aquarium along with a few of *Limnæa palustris* and one *L. peregra*. In a few days after, on examining to see if the *Ancyli* had adhered to the small stones put in for them, I found but empty shells. The *Limnæa* had cleaned them out.

The usual meeting of the Society was held in the Committee Room of the Y.M.C.A. Institute, on Tuesday evening, 21st Feb.—the Rev. Mr Goldie in the chair. The minutes of December meeting were read by the Secretary and approved of. Thereafter the Chairman introduced the Rev. J. M. Robertson,

St Ninians, who contributed a very interesting paper on Robert Montgomery, minister of Stirling, and Archbishop of Glasgow, 1581-83, compiled from the Stirling Presbytery Records, which are the earliest and most complete of their kind in Scotland, with extracts, hitherto unpublished, from the process against Montgomery, one of the notorious Tulchan bishops, and references to contemporary events. Colonel Stirling, Gargunnock, followed with a paper on the rainfall in the central district of Scotland, with summary and measurements of the rainfall in various localities. The thanks of the meeting were, on the motion of Mr Shirra and Mr Morris, heartily accorded to the Rev. Mr Robertson and Col. Stirling. The Rev. Mr Robertson exhibited the Presbytery Record Book, and collection plates from St Ninians and Airth. The plates belong to a kind still in use in many old parish churches. They are wide in diameter, made of brass, or bronze, hammered into patterns and figures, the central figure always symbolical of the temptation of Adam and Eve. They were probably imported in the 17th century from Holland, and originally used in the Reformed Churches on sacramental occasions. The Airth plate is peculiarly interesting, in so far as it bears the date 1627 and an inscription in Dutch "Vreest Godt, onderhoudt zyn gebodt." "Fear God and keep his Commandments." Both ought to be preserved. A vote of thanks to the Chairman concluded the business. The following is Col. Stirling's paper :—

RECORDS OF RAINFALL IN STIRLINGSHIRE FOR 1892.

Scotland is generally supposed to be the most rainy portion of Great Britain, but I think that is hardly the case. We certainly have in Scotland a station at which more rain falls than at any other place, and that is the summit of Ben Nevis, where 177·98 in. of rain fell in 1891. But that is not to be wondered at considering it is the highest mountain in Great Britain. And with that exception, and probably with the exception of the summits of other high mountains of which there is no record, more rain falls in parts of England and Wales than anywhere in Scotland. The following are the stations recorded in Symons's "British Rainfall in England and Wales," at which more than 100 in. of rain fell in 1891 :—Scawfell Pike, 110·50 in.; Sprinkling Tarn, 136·60 in.; Styehead Tarn, 121·80 in.; The Stye, 166·40 in.; Seathwaithe, 147·19 in.; Ullscarf, 125·40 in.; Wythburn Vicarage, 121·68 in.; Borrow

dale Vicarage, 123·92 in.; Buttermere, 124 93 in., and Armboth Falls, 105 80 in., all these places are in Cumberland. Little Langdale, 116·60 in.; Dungoom Ghyll, 122·35 in.; Mickleden, 129 45 in.; Grasmere, 102 08 in.; Grisedale, 126 55 in., and Patterdale, 112 01 in., all in Westmoreland. Neath, 108·16 in., and Treherbert, 106·94½ in., in Glamorgan; Cwm Taff Faur, Cardiff, 100·71 in., in Brecknock; Oakley Quarries, 102 67 in., in Merioneth; Llanberis, 141 09 in., and Llyndulin, 129·53 in., in Carnarvon. Over 100 in. of rainfall in 1891 are only recorded in Scotland from Loch Eil, in Argyllshire, 103 06 in.; from Loch Shiel, 106 06 in.; Glenquoich, 109 34 in., and Ben Nevis, which, as I said before, heads the list with 177·98 in., in Inverness-shire. The places in England where less than 20 in. of rain fell in 1891 are Rochester, in Kent, 19·96 in.; Ipswich, 19 98 in., and Bury St Edmunds, 19 80 in., in Suffolk; Shoeburyness, 16·23 in., and Southend, 19·01 in., in Essex; Patrington, 18·28 in., in Yorkshire; Egglescliffe, 18·52 in., Hart Reservoir, Hartlepool, 19·83 in., in Durham. And in Scotland less than 20 in. of rainfall is recorded from Edinburgh, Charlotte Square, 300 ft. above sea level, 18·84 in.; Edinburgh Royal Observatory, 370 ft., 17·18 in.; Ailsa Craig, 19·74 in.; Arbroath Waterworks Tower, 15 20 in.; Girdleness, Kincardine, 18·27 in., and Fearn, in East Ross, 19 69 in. So that you see from these figures that we do not live in such a rainy country as is generally supposed. I will now come to the rainfall in our own county of Stirlingshire, for which I have records for eight stations for 1892, and which I have summarised in the accompanying table. [See table II.] You will see that Stirling with 36 69 in. has the smallest rainfall amongst these stations, and Ben Lomond with 74·50 in —more than double that of Stirling—has the highest. But I have no doubt that if I had any records from places in the County further east than Stirling, I would have a still smaller rainfall to record. From the table you will see that August was the rainiest month in the year. The greatest rainfall for any one day at Buchlyvie, which is the only station at which daily rainfall is recorded, was 1 88 in. in August, and 1 89 in. in September. At Gargunnock upwards of 3 inches fell on the 29th and 30th August. I have also here the rainfall for the last 11 years at No 3 Reservoir, Stirling Waterworks, kindly made out by Mr Ronald. You will see that 1887 was the driest of those years with 32 40 in. of rain, and 1883 the wettest with 49·63 in.,

and last year which began with such very dry months was the next wettest with 48 91 inches. [See table I.] I have also a table made out by the engineer of the Glasgow Waterworks of the rainfall in the Loch Katrine and Gorbals districts. Two of their stations are in Stirlingshire, viz., Ben Lomond and Mugdock Reservoir. The total rainfall for last year I have already given you, and the average rainfall at these two stations since 1874 are, for Ben Lomond 79·27 inches, and Mugdock Reservoir 47·45 inches. I hope that next year I may be able to get some records from the more eastern parts of the county, so that I may be able to compare them with the rainfall at the stations which I have just read to you.

TABLE I.—RAINFALL FOR THE LAST ELEVEN YEARS, FROM 1882 TO 1892.

Months.	1882.	1883.	1884.	1885.	1886
January	4·09 in.	7·75 in.	6·75 in.	3·75 in.	2·35 in.
February.....	4·45 ,,	3·58 ,,	5·84 ,,	6·18 ,,	1·05 ,,
March	3·97 ,,	1·43 ,,	2·75 ,,	1·15 ,,	3·35 ,,
April.....	2·37 ,,	2·73 ,,	1·15 ,,	2·30 ,,	0·85 ,,
May	1·57 ,,	2·12 ,,	4·60 ,,	3·50 ,,	3·10 ,,
June.....	3·60 ,,	3·00 ,,	1·12 ,,	·90 ,,	1·00 ,,
July	6·50 ,,	4·68 ,,	5·41 ,,	1.50 ,,	3·25 ,,
August	2·45 ,,	5·03 ,,	2·30 ,,	4·60 ,,	1·55 ,,
September...	3·72 ,,	3·37 ,,	3·17 ,,	6·00 ,,	5·70 ,,
October	5·52 ,,	5·37 ,,	2 95 ,,	2 40 ,,	4·92 ,,
November....	5·60 ,,	6·48 ,,	5·55 ,,	2·40 ,,	4·42 ,,
December....	4·67 ,,	4·29 ,,	7·18 ,,	2·70 ,,	2·95 ,,
	48·51 ,,	49·63 ,,	48·77 ,,	37·38 ,,	34·49 ,,

Months.	1887.	1888.	1889.	1890.	1891.	1892.
Jan. ...	2.50 in.	3·80 in.	2·85 in.	8 41 in.	3·55 in.	2·90 in.
Feb.	5·00 ,,	0·20 ,,	1·48 ,,	·73 ,,	1·15 ,,	2·20 ,,
March..	1·90 ,,	3·50 ,,	1·38 ,,	2·68 ,,	2·20 ,,	1·30 ,,
April....	2 00 ,,	2·35 ,,	2·70 ,,	1·78 ,,	1·20 ,,	·86 ,,
May.....	0·65 ,,	4·25 ,,	4·35 ,,	3·10 ,,	3·70 ,,	4·45 ,,
June....	0·75 ,,	3·60 ,,	1·30 ,,	3 35 ,,	1·26 ,,	5·75 ,,
July....	3·30 ,,	5·85 ,,	3.05 ,,	3·05 ,,	1·75 ,,	4·05 ,,
August.	3·35 ,,	3·85 ,,	6·05 ,,	4·58 ,,	5·90 ,,	9·35 ,,
Sept. ...	4·75 ,,	1·00 ,,	1 00 ,,	2·63 ,,	7·20 ,,	6·10 ,,
Oct.....	1·55 ,,	2 75 ,,	3·70 ,,	4·20 ,,	5 35 ,,	5·95 ,,
Nov.....	3·70 ,,	3·45 ,,	2·10 ,,	9·05 ,,	5·00 ,,	4·30 ,,
Dec.....	2·95 ,,	4 95 ,,	2·88 ,,	1·20 ,,	8·90 ,,	1·20 ,,
	32·40 ,,	44·55 ,,	33·34 ,,	44·76 ,,	46·96 ,,	48·91 ,,

Pro WM. RONALD, Supt. of Water Works,
H. STEVEN.

RAINFALL IN STIRLINGSHIRE.—1892.—TABLE II.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
No. 3 Reservoir, Stirling, about 700 ft. above sea,..	2·90	2·20	1·30	0·86	4·45	5·75	4·05	9·35	6·10	5·95	4·80	1·20	48·91
Victoria Place, Stirling, about 100 ft.,.....	2 56	1·54	0·99	0·73	3·97	4·02	1·73	7·29	3·75	4 38	4·13	1·60	36·69
Gargunnock House, about 90 ft.,.....	3·58	2·06	1·285	1·00	3·64	4·87	1·99	9·13	5·28	4·55	4·635	1·775	43·345
Garden House, about 100 ft.,.....	5·40	2·24	1 19	0·87	3·92	4 47	3·12	5·33*	9·86*	4·23	4·99	3·09	48·81
Buchlyvie, about 150 ft.,..	4·33	3 05	1 34	0 90	4·96	5·19	3·01	9·48	6·73	8 97	5·23	2·84	51 03
Mugdock Reservoir, 320 ft.,.....	9·90	2·80	1·15	1·10	4·90	4·60	3·46	7·35	6·00	5·10	4·60	3·29	48·10
Benlomond, 1800 ft.,.....	7·00	3·40	1·80	2·40	7·10	7·90	4·50	10·20	10·10	6·50	7·60	6·00	74.50

* The rainfall for the last three days of August was included in the record for September.

ROBERT MONTGOMERY,—MINISTER OF STIRLING, AND ARCHBISHOP OF GLASGOW.

BY THE REV. J. M. ROBERTSON, M.A., MINISTER OF ST NINIANS.

The person who forms the subject of the following article, occupied for one or two years a large place in the history of Scotland, which was then the history of its Church, no less than of the State. Although destitute alike of ability and integrity, being as William Scot in his "Apologetical Narration" calls him, and as all the information we have regarding him proves, "a stolid ass and arrogant," he was promoted to the Archbishopric of Glasgow in circumstances that rendered his position for a brief interval one of the most conspicuous and noteworthy. The period was full of trouble and distraction on all sides. Regent Morton had been brought to execution, "beheaded by his own axe, the maiden," through the base intrigues of Captain James Stewart, made Earl of Arran, the profligate and unprincipled companion of Esme Stuart or D'Aubigny, Duke of Lennox, cousin to the young king. In the Church, Andrew Melville's Book of Policy, commonly termed the Second Book of Discipline, had just been issued, and on the basis of the system it proposed, elderships or presbyteries within definite territorial bounds and composed of regularly ordained ministers and office-bearers in the constituent parishes, were being erected throughout the land. The clergy were loudly lamenting the dilapidation of the Church property and their own inefficiency to overtake the religious wants of the nation, not only from their diminishing numbers and the worldly poverty to which they had been reduced, but from the tendency of the King and his Councillors unduly to interfere with their freedom of action. The Presbyterian polity was that which the large majority of the people, high and low, had espoused, and the Reformed Church was engaged with earnest effort in clearing away the remains of the hierarchy which still, twenty years after the meeting of the first General Assembly, lingered in their midst. But these endeavours were constantly thwarted by adverse influences, proceeding from the dissolute faction surrounding the King, to which the political friends of the Duke of Lennox belonged. The appointment of Montgomery to the see of Glasgow under a simoniacal contract with Lennox, to whom a

grant of the revenues of the Archbishopric had been made by the Privy Council, but who could not draw them in his own name, was a direct slap in the face of the Church, a challenge to try her strength as against her civil adversaries at the Court. Nor did she shrink from the contest. Montgomery was promptly summoned before the ecclesiastical assemblies, and notwithstanding menaces, inhibitions, letters of horning, charges of treason, and even bodily assault, his judges discharged their duty, tried, condemned, and deposed him. Soon afterwards the "Raid of Ruthven" took place, and there cannot be any doubt that Montgomery's process and the incidents attending it entered very largely into the causes of that enterprise, and the detention of King James in the hands of the Presbyterian nobles that followed. All these events happened between 1581 and 1583. As for Montgomery himself he became personally forgotten and his petition in 1588 for readmission into the ministry was almost contemptuously granted. He died minister of Symington, a small parish in Ayrshire, in circumstances, says Keith, of great misery. Principal Robertson's portrait of him has been often quoted :—"A man, vain, feeble, presumptuous, and more apt by the blemishes of his character to have alienated the people from an order already beloved than to reconcile them to one which was the object of their hatred."

Before proceeding to fulfil the special purpose of this contribution to the transactions of the society—the presentation of all the passages which relate to Montgomery in the original records of the Presbytery of Stirling, most happily preserved—it may be desirable to offer a few introductory observations on his life and character prior to the period at which these records commence. He was the third son of Hugh Montgomery of Hassilhead, descended from the family of Giffin in Cunninghame. His first charge appears to have been Cupar-Fife, which he served, as Dr Hew Scott conjectures, from 1562 till he was translated to Dunblane. He figures, however, before this, among those who in 1559, came forward as auxiliaries to the Protestant preachers, and he appears in the list of such as were "thocht apt and able to minister," by the first General Assembly in 1560. In the minute o that assembly three lists of names are given. Thfe first embraces the names of "the ministers and commissioners of the particular kirkes of Scotlan d convened

to consult upon those things qlk are to set forward God's glory, and the weill of his kirk in this realm," forty-one in all, beginning with John Knox, and including, among others "William Darroch and William Norwell for the towne of Stirling and kirk thereof." Of these forty-one, it may be mentioned, only six are denominated ministers. The second list contains the "names of them quhilks the ministers and Commissioners thinks most qualified for the ministering of the word of God and sacraments, and rendering of the common prayers" (Book of Geneva) "in all kirks and congregations, and given up by them, every one within their bounds," in Kyle eight, all readers, and one appointed to teach, in St Andrews for ministering and teaching twenty-one. The third list consists of "uthirs qlk are thocht apt and able to minister," thirteen in all, beginning with John Erskine of Dunn, and including Montgomery. The entire extant minute of the First General Assembly of the Church of Scotland contains nothing else than these three lists, and I have deemed it right to refer to it at length, because it is in itself of unspeakable general interest and importance, and because the mention of Montgomery's name, in particular, indicates somewhat surprisingly, that in his younger days he enjoyed no inconsiderable degree of esteem from Knox and his fellow-reformers. The next notice of him on record occurs in the minute of the General Assembly "holden at Edinburgh on the 25th June, 1564, and following days, and begun in the neither Tolbuith at four heures afternoon; exhortation and prayer be Mr John Knox, minister of Edinburgh, in the quhilk were conveint the (five) Superintendents, ministers and commissioners of Provinces of Kirks." In its second session this Assembly, notable among other things for Knox's famous controversy with Queen Mary's secretary, Lethington, requested "Mr Robert Montgomery, minister at Cupar to support every other Sunday the kirk at Largo, until further provision be made; and ordainit the Superintendent of Fyfe to labour with the toune of Cupar for Licence to the said Mr Robert for the purpose aforesaid, and to tak order with the schoolmaster of Cupar to read and exhort in the kirk." He was translated to Dunblane before 1567, the exact date being unknown, and in 1572 he was translated from Dunblane to Stirling on the demission of John Duncanson, who, while relinquishing his parochial charge, remained minister of the King's House, or royal chaplain. The stipend in 1574, according to

the register, was £200 Scots or £16 13s 4d sterling, along with the kirk lands.

In the same year in which the register, or Book of the Assignation of Stipends, was drawn up (1574) Montgomery was a member of the General Assembly held in Edinburgh. Calderwood's notice of this Assembly will throw light on the practice, now begun, and of which the minister was soon to furnish a notorious example, of creating tulchan bishops, "In the Assembly preceding there were only two bishops, St Andrews and Dunkelden. But since that time their number increased, and there were beside the other two present at the Assemblie, Glasgow, Murray and Caithnesse. George, Bishop of Murray, was a whole year mumbling upon his papers, and had not his sermon by heart when all was done. Mr James Boyd" — Montgomery's immediate prodecessor—"was induced by the Lord Boyd to accept the bishoprick of Glasgow, the gift whereof the said lord, being familiar with the Earl of Morton, had purchased (procured) for his commodity. But within a year or two, when he found not his bishop pliable to his intentions he caused his son, the Master of Boyd, seize upon the castle of Glasgow, and gather up the rents of the bishoprick to entertain the same, because the Tulchan bishop caused not the cow to give milk enough to my Lord. Mr James Paton, Bishop of Dunkeld, gave quittance, but the Earl of Argyle received the money. May we not clearly see bishops were not set up for the weall of the kirk, but for the commodity of noblemen? They had said in plain terms they behoved to leave the kirk, if they got not the kirk rents. So they fought, never against the papists, but against the titulars of the tithes and rents of the kirk."

Six years afterwards, at a General Assembly, convened in Dundee, on the 12th July, 1580, the following Act was passed:—"Forasmeikle as the office of ane bischop, as it is now used and commonly taken within this realm has no sure warrant, authority, or good ground out of the Scripture of God, but is brought in by folly and corruption to the great overthrow of the Kirk of God; the hail Assemblie of the Kirk in one voice, after liberty given to all men to reason in the matter, finds and declares the said pretendit office unlawful in itself, as having neither fundament, ground, nor warrant within the word of God, and ordains that all sic persons, as bruiks or sall bruik, hereafter, the said office shall be chairged simpliciter to demit, quit,

and leave off the same." To this Act, the Bishop of Dunblane (Andrew Graham, afterwards deposed, son of the Laird of Morphie, presented by the Regent in 1575 "under the name of a preacher, although he had been nane,") "agreit, submitting to be ruled thereby." In the same Assembly, at the trial of visitors of countries, of whom there were then 26, successors of the original 5 superintendents, "Mr Andro Grahame being removed, it was delated that he had no ordinar flock, that there were many Papists and excommunicants dwelling in Dunblane, and no order taken with them, that he had set his benefice to Mr William Stirling without consent of the Assembly, that the reader at Muthill had ministered the sacrament at Easter last, that the sacraments are commonly bought and sold at Auchterarder. Re-entering, he answered to the first that his special flock was Dunblane where he taught, howbeit not so diligently as his duty and office required. He granted the second, and the Assembly ordained him to proceed with censures against some of the Papists, and letters of caption against the excommunicat. To the third he granted he set his benefice, but with the restriction that Mr William purchase the consent of the General Assembly and desired that the moderator and his assessors might cognosce upon it, which was granted." This dealing of the 1580 General Assembly with Andrew Graham of Dunblane is pertinent to our subject, in so far as his name occurs in the first minute of the Presbytery of Stirling, as a Commissioner assisting along with Montgomery in the erection of the Presbytery, and as the examination of the latter proceeds to some extent contemporaneously with an inquiry into Graham's transactions and intromissions with the rents and other revenues of his benefice. Montgomery, however, had not yet forfeited the confidence of the Church, for he was entrusted with a duty, which only those in whom the Assembly placed full reliance would have been offered. "Charge and commission was given to Mr Robert Montgomery to warn the Bishop of Argyle and the Isles, to compear before the next General Assembly and 3rd day thereof, to answer to such things as the Assembly shall inquire of him." In the following year, 1581,—an eventful one for the Church of Scotland—the General Assembly met at Glasgow on the 24th day of April. The King's letter, or as it is otherwise called "petition," having been read, certain rolls were presented containing the proposed presbyteries and the kirks

of every presbytery. At the eighth session of the Assembly, on the report of "the brethren appointit to consider the platting of the kirks given in to them in rows, the hail Assembly thocht meet that ane beginning be had of the presbyteries instantly in the places after following to be exemplator to the rest that may be established hereafter." The Presbytery of Stirling was constituted as follows:—Cambuskenneth, Logy, Lycrope, Kylbride, Aberfull, Port, Clackmannan, Tulliebodie, Tulliesallane, Kylmadock, Kyncardin, St Ninians Kirk, to be devydit, Larbour, Dunipace, Kirk of Muir, Kyppey, Alvethie, Tillicoultrie, Kilmahago, Leney, Callendrech, Airth, Bothkennar. The "diocie" of Edinburgh embraced the Presbyteries of Stirling, Edinburgh, and Linlithgow, and it along with the other "Diocies or Provincialls," as Row styles them, met in the Provincial Synods. The register of ministers and readers of the year 1574 represents, on the other hand, a scheme devised by Morton, and which was certainly only in partial force when the 1581 plan came to the front, its leading principle being the combination of three or four or even a greater number of contiguous churches to be placed under one central minister with the assistance of a reader to serve in each parish. Most of the monks, canons, and others of the old religious establishments had now accepted the Reformed faith, and the occupation of reader—an office which was shortly abolished—furnished them meanwhile with suitable employment and a scant means of livelihood. It may be of interest to mention that under Morton's arrangement, as given in the Register of 1574, Stirling was placed in the Diocese of Merse and Lothian, and possessed two ministers, John Duncanson, with a reader, over the Chapel Royal or King's House, and Robert Montgomery, with a reader, over the Parish Church. St Ninians Kirk had its own minister, Patrick Gillespie, with a reader, besides readers at Larbert, Dunipace, Kirk o' Muir, and Kippen, whilst Falkirk, with a minister and reader at Falkirk, had also readers at Airth and Bothkennar. In the diocese of Dunkeld and Dunblane, Kilmadock, Kincardine, Lecropt, and Logie, were placed under Kilmadock, and Clackmannan, Tulliebody, Cambuskenneth, Tillicoultry, and Alva, were placed under Clackmannan. The decision of the General Assembly of 1581 terminated, so far as it was ever in active existence, that state of things, and classified presbyteries and parishes according to a principle which, although modified in its application in

certain details, has been substantially adhered to, and regulates the division of the Church at the present day. Robert Montgomery, John Duncanson, and the Bishop of Dunblane, were named "to see this order of eldership established for Stirling and Linlithgow." The records of the Presbytery of Stirling begin with the account of the formal erection of the Presbytery a few months after the resolution to that effect of the Glasgow General Assembly. Still another appearance of Robert Montgomery, however, ought to be mentioned before consulting our original sources on the transactions in which he was actively or passively involved. It is one specially noticed by Spottiswoode, as also by Peter Heylin—"lying Peter"—in his history of the Presbyterians. The minute of the 8th session of the Glasgow Assembly ran thus, "Anent the Act made by the Assembly at Dundee (already quoted), against the bishops being, some difficulty appeared to some brethren to arise by the word of office conteinit in the said Act, what should be meant thereby. The Assembly present for the maist part of them that votit and was present at the Assembly at Dundee, to take away the said difficulty, and resolve men of the true meaning and understanding of the said Act, declared they meant haillilie to condemn the estate of bishops as they now are in Scotland, and that the same was the determination and conclusion of the kirk at the tyme." In explanation of this Calderwood says, "Some of the brethren took the Act at Dundee to have meant only of the spiritual function. This Act maketh clear that their whole estate, both the spiritual and civil part, was damned." Spottiswoode's account in one respect contradicts Calderwood's. He says, "The question of bishops was again agitated, and because of scruples which some brethren had at the Act concluded at Dundee the year preceding, especially where it was said that the office of a bishop had no warrant of the word of God, the Assembly declared that their meaning was to condemn the estate of bishops as they were then in Scotland. A number of the more wise and moderate sort interceded that the conclusion of that matter might be for a time deferred, but they were cried down by the multitude. Among others, one, Mr Robert Montgomery, minister at Stirling, was so fervent in the cause as he would have the Assembly censure those that had spoken in defence of that corrupted estate." That Montgomery's zeal in supporting the opinions of Melville and the

majority, as against the more lukewarm Presbyterians, was either the fruit of a sanguine and unsteady temperament, driven by inconsiderate impulse, or an exhibition of sheer duplicity, events soon shewed. In the words of Dr George Cook, in his History of the Church of Scotland, "Before the expiration of a few months he not only consented to be invested with the mitre, but to purchase it by concessions from which an honourable and religious mind should have shrunk with horror." It happened thus (to give Spottiswoode's version of the matter):—James Boyd, Titular Archbishop of Glasgow, died in June 1581, after whose death the Bishopric was offered to divers who refused. At last the agents in the business fell upon Montgomery, who accepted and gave a bond that as soon as he was admitted bishop he should dispose the lands, lordships, and whatever belonged to that prelacy, to the Duke of Lennox and his heirs for the yearly payment of £1000 Scots, with horse-corn, and poultry. At what exact date this vile bargain was made is uncertain. It seems to have come to light in the course of the first two or three months of the Presbytery's existence, to whose records we shall now go for information, after a somewhat long but, as I trust, not unprofitable exordium.

The Glasgow General Assembly was convened, it may be remembered, on the 24th April, 1581, and the Stirling Presbytery met on the 8th August. I reproduce from the Manuscript the account of its proceedings in full, modernising generally the spelling, as I shall do throughout, for the convenience of readers.

"The Eldership of Striviling was erected upon the 8th day of August, the yeir of God, 1581 yeirs, by Mr Robert Montgomerie, and Mr Andro Grahame, Commissioners appointit by the last General Assembly to that effect. The names of the ministers and elders convened, who accepted upon them office and place in the said Presbytery, by solemn promeis in the presence of God, their hands being haldin up, promising faithfully to exerceis their offices therein, conform to the word of God unto the end of their lives, as it shall please God to minister unto them the gift of His holy Spirit. Ministers:—Mr Robert Montgomery, minister at Stirling; Patrick Gillespie, minister at S. Ninians Kirk; Andrew Forester, minister at Falkirk; Mr Andro Young, minister at Dunblane; Alexander Fargy, minister at Logy; Robert Mentayth, minister at Alvayth; Mr Adam Merschell, minister at Fossaway; Thomas Swintoun,

minister at Muckhart. Elderis for the Kirk of Striviling—Adam, Commendator of Cambuskenneth; Umphra Cunninghame, Commissioner of Striviling; Mr James Pont, Commissioner of Dunblane; John Layng, burgess of Striviling. For S. Ninians Kirk—A. Forester of Garden, Duncan Nairn of Torbrex, A. Paterson in Corspatrick. For Logy—Adam Spittal of Blair Logy, James Elshender (Alexander), in Mainis. Mr Andro Graham, minister at Dunblane; and Michael Lermonth, minister at Kilbryd, bean desyrit be Mr Robert Montgomery and the brethren foresaid, they then being present, to accept office and place in the eldership foresaid, and to submit themselves to the jurisdiction thereof, refused to do the same, and protestit the said Mr Andro Graham, that this his consent to the erecting of the eldershp of Striviling should not be prejudicial to him, in case there should be one hereafteir appointit in Dunblane. The same day the brethren present, with common consent, electit James Duncanson, reader in the Kirk of Striviling, Clerk to the said Presbytery. The same day, Patrick Gillespie, minister at S. Ninians Kirk, was chosen by moniest votes, moderator to the said eldership, unto the next provincial assembly. The brethren ordains the exerceis to be kept ilk Tuesday at 9 hours, and the bell to ring before the hour, ane reasonable space."

Such is the authentic record of the first meeting of the Presbytery of Stirling, three hundred and eleven years ago. The tentative efforts hitherto employed to secure a workable organisation for the Reformed Church, had at last been superseded by the appointment of a permanent plan, for with the exception of the reference to the weekly exercise, then strictly insisted on—at which one minister was held bound under penalty "to prophecie," and another "to add"—the minute might be one of the present day, and the continuity of the proceedings of the Presbytery remained henceforth unbroken, except when violently interrupted. The oath of fidelity, too, appears to wear a formal and familiar shape, and the words Moderator, provincial assembly, and subsequently, elders and deacons are used to express functions and offices which required no explanation. The Presbyterian system in fact, was already in substantial working order, although it appears on the platform adopted by the Glasgow Assembly, so far as Stirling is concerned, for the first time at the date of this minute. The Dunblane brethren had been holding their own exercise, which, according to the answer given in 1579 by the General Assembly

to a question sent up from one of the Synods, whether presbyteries would be erected where public exercise was used, gave them an independent status; "The exercise may be judged a presbyterie." Andrew Graham and Michael Lermonth were therefore justified in protesting and casting a lingering look at the privilege, which by the new Act, they were constrained to leave behind. Montgomery was fulfilling the commission entrusted to him, with all apparent loyalty. But Archbishop Boyd had been removed by death a month or so previously, and the next minute affords room for the conjecture that negotiations on Montgomery's behalf as his successor were beginning to transpire. At all events, three weeks afterwards, we read in the register under date 29th August, 1581, that "the brethren, considering the great absence of Mr Robert Montgomery, minister of Stirling, fra his chairge, and negligence in his office, bayth in doctrein and discipline, ordains the moderator to admonish him thereof, and to desire him to compeir the next occasion to show the cause of his absence." He does not compear but sends excuse, transcribed *verbatim* in the following extract:—"The xii. day of September, 1581. The qlk day, Patrick Gillespy, moderator, showed to the brethren that he had admonished Mr Robert Montgomery of his absence and desired him to be present, conform to the last act. Compeared James Duncansone, and producit ane writing of the said Mr Robert, direct to the brethren of the exercise and presbytery of Stirling, whereof the tennor follows: "Brethren, eftir my hearty commendation, were not certain necessary business I have had ado this time byegane and has yet in hand, I had not been absent from you. Therefore, I pray you, have my absence excused, for I suppose few ministers has kept better residence nor I have kept hitherto, nor mair careful for the kirk, bayth towards the exerceis and presbytery as I report (refer to) your own remembrance. Not doubting but ye will tak in gude part my lawful excuse as occasion may offer to yourselves, and the Lord bless your exerceis and presbytery through Jesus Christ. So be it, at Stirling, the 11th day of September, 1581. Sic subscribitur, your brother in the Lord, Maister Robert Montgomery." In this missive the stolidity and arrogance which his successor in Cupar, Mr Scott, ascribes to him are not indistinctly brought into view. Accordingly "the said wreting being considderit, albeit it appears to accuse others rather than to excuse himself, yet the

brethren, willing matters to be handellit brotherlie passes therefrom, and ordains the said Mr Robert to declare in the next session the special causes of his absence, because the bill (billet) in that part is general." When the brethren again meet they deal with his absence in a much more decided manner, and fraternal relations with him are evidently becoming strained. "The 26th day of September, 1581. The brethren considering the absence of Mr Robert Montgomery from his charge to be nothing amended by their former admonitions, but rather mair negligent nor of before, ordains him to be summoned to the provinciale assembly of the eldership of Stirling, Linlithgow, Edinburgh and Dalkeith, to be holdin in Edinburgh, the third day of October next to come, within the Tolbooth thereof, or where it shall happen them to sit within the said burgh for the time, to answer sic things as should be laid unto his charge under the pain of disobedience, and ane summons to be direct hereupon."

After the meeting of Synod, which he did not attend, his case became invested with greater public interest and importance. The sederunt of the Presbytery, on the 10th October, was a large and influential one, and his acceptance of the Archbishopric had manifestly, although only implicitly, no little share in the aspect of the court and its proceedings. "The x day of October, 1581," so runs the MS., "Presents Mr Robt. Montgomery, Patrick Gillespy, Andro Forester, Mr Andro Young, Alex. Fargy, Robert Menteath, Thomas Swinton, Mr Adam Marshall, My Lord of Cambuskenneth, the Laird of Garden, Mr Jas. Pont, Umphra Cunninghame, Adam Spittal, James Alexander, the Lairds of Keir, Duntreith, Merchiston, and Glorat, Mr John Stewart, Provost of Stirling; John Auchmuthy, Andrew Cowan, and Malcolm Wallace, bailies; and Wm. Norvell, maister of wark. Mr Robt. Montgomerie being required to pay the penaltie contained in the Act of the Provinciale Assemblie for his absence from the same, in respect his excuse sent there was not found sufficient, as an act thereupon bears:—Answered, he sent ane reasonable excuse as appeared to him in wret, and farther, if there be ony penalty of him required, if ane law strikes upon him, he will obey it when he sees it." After an interval, at which some unimportant items of business were gone through, he resumed his defence, and from being the accused became once more the accuser of others. "Mr Robert Montgomery complained that he was not brotherly nor charitably

handled, in that there was summons direct against him in name of the eldership, he not being brotherly admonished of before, according to the order, and so finds fault with the process led against him, and desires if the brethren will abide by the same. Answers thereunto Patrick Gillespie, that he was admonished personally by him in name of the brethren that they found fault with his negligence in his office and not awaiting on his charge, and therefore desired him to compear before the brethren, the xii of September last, to mak his awin excuse, and in respect he compeared not personally, but sent his writing quhilk was general, and contained no special cause of his absence, the said Patrick, in name of the brethren, affirmit that there was na wrang done to him, but that process deduced against him was lawfully led. The brethren, considering Maister Robert Montgomerie's allegence, and Patrick Gillespy's answer thereunto, desires the said Mr Robert, yet, as of before, to show the special cause of his absence from his charge every other Sunday, and the haill week days except the (blank) day of (blank) last from doctrine, discipline, and exercise, since the tenth day of August"—the erection of the Presbytery—"beside his other absence before. He answers he kept all the Sabbath days, four excepted, and if he had been required either by word or writ of the brethren, he would willingly obey it, and said that he had sic reasonable business ado for himself and for friends that moved his absence, the time of his absence, as he will mair specially declare hereafter. The said Mr Robert being removed, the brethren present approves the ordinance and citation of the summons deduced against him and finds the process formally led. Also they find his answer to their former petition as yet general, and therefore ordains him publicly declare the cause of his absence mair special. The said Mr Robert answers tuiching ane mair special manner, and the approbation of the absents allowing the thing that was done by the presents touching his citation; it appears to him he has given sufficient answer, and refers the same to be considerit by the General Assembly of the Kirk, and promises there to declare the special cause of his absence as he sall be required.

"Compeared William Norwell in name of the Provost, bailies, and council of the town of Stirling, and desired Mr Robert Montgomerie, the minister, to declare unto them, if he would remain with them or not, to the

effect they might provide for themselves in case he left the Kirk. He answers, it pleased God to call him to be minister there, and has shown his diligence in the office to God's glory and the weill of His Kirk; and for his part shall not leave them destitute to sic time that with their awin advice they be provided, and shall assist them always according to his power to God's glory and the weill of his Kirk. The said Mr Robert's answer being considered by the brethren was fund doubtsome and not direct and plain to the desire of the said Wm., and therefore ordains him to give ane plain answer whether he will remain or not. Answered the said Mr Robert, and promised to give ane plain answer to the provost, bailies, and counsel betwixt and Sunday next to come, whether he would remain with them himself or no."

We must now transfer our attention for a moment from the local records to the proceedings of the General Assembly, which was held at Edinburgh seventeen days after the Presbytery meeting, and at which Montgomery had promised, as we have just seen, to declare the reasons of his absence from the Synod. That Assembly, however, from causes of high import, handled him in a far more formidable indictment than the comparatively modest complaint made against him by his brethren of the eldership in Stirling. It was convened on the 17th October, 1581, John Craig, moderator. "Mr Walter Lindsay presented to the Assembly the King's missive, written in favour of Mr Robert Montgomery, minister at Stirling. Mr Robert was preferred to the bishoprick of Glasgow, now lately vacant through the death of Mr James Boyd, who departed this life in June last. The Duke of Lennox got the gift of the bishoprick, and presented Mr Robert. The brethren of the Presbytery of Glasgow were charged by Mr George Young, in the King's name, to give their resolute reasons concerning the admission of Mr Robert the day after the presenting of the King's missive. The Assembly directed their brethren, Mr James Lawson, David Lindsay, John Dury, to go to his Grace, to let his Grace understand that the Assembly conform to his Grace's missive hath stayed proceedings against Mr Robert Montgomery till Friday that conference may be had in this matter. And requested that his Grace would use no proceedings or charges against the brethren of Glasgow, seeing all the brethren of this Assembly takes the charge upon them, and avow their proceedings. In the meantime, the Moderator, in name of the Assembly,

charged Mr Robert not to depart until the Assembly was dissolved."

The Privy Council and the General Assembly had come to close quarters. The warfare between them was essentially a conflict between arbitrary power and religious liberty. The true meaning of Montgomery's case lay there, and hence, apprehending its vast importance, Andrew Melville, who then led the Church, had directed the course of the proceedings against him and formulated the charges on which he was to be tried at the General Assembly. These accusations he gave in at its 10th session, of which they furnish the entire minute of business, and as they throw considerable light on the time, I quote them fully—"Articles quhairof Mr Robert Montgomerie, minister at Stirling, was openly accusit in the General Assemblie anent his doctrine.

1. That publiclie preaching in the Kirk of Stirling, he proponed a question touching the circumcision of women, and in the end concluded that they were circumcisit in the foreskin of their forehead.

2. In Glasgow, he openly taught that the discipline of the kirk is a thing indifferent, and may stand this way or that way.

3. He accused the ministers that they used fallacious arguments and captious, and that they were curious brains.

4. So far as he could he travellit (laboured) to bring the original languages, Greek and Hebrew, in contempt, abusing thereto the words of the apostle, I. Cor. 14, and tauntingly askit in what schoole were Peter and Paul graduit?

5. To prove the corrupt state of bischops in our time, he brocht forth the examples of Ambrose and Augustine.

6. It is sufficient to baptise in the name of the Father only, or in the name of the Son.

7. The matters of discipline and lawful calling in the Kirk he callit trifles of policie.

8. He accused the ministry of sedition and lese majestie exhorting them not to be seditious, nor meddle with hie matters, to leave off to put on crowns and off crowns, for if they meddle any farther therewith they wald be reprovit.

9. He condemnit the application of the scripture to the particular manners and corruptions of men, mockingly asking in what scripture they may find a bishop for a 1000 pund horse corne and pultrie, and when they teach of luife how cold they found Judas?

10. He oppugnit the doctrine of Christ, quho

pronounces, that the most part are rebellious and perish.

11. He denyed that in the New Testament any mention was made of the Presbytery or eldership.

12. He accusit the ministers of pasquils, of grudging and murmuring, and confusion, of lying and backbiting, saying where is it? Who will do it? What fault can they find with the court! As for myself I find nane.

13. The Kirk being traducit by pasquils and infamous libels, not only purgit he not the Kirk or himself thereof, having good occasion, but rather approvit the same.

14. He used in his preaching against the ministrie, the very words of the libel that was cast in the King's Chambers against them.

15. This quarter year bygane, he has been negligent in doctrine, discipline, and assisting of the eldership."

The charges against Montgomery having been duly laid by Melville before the General Assembly, a series of scenes ensued, involving sensations elements that would make the fortune of a modern newspaper, and the excitement did not subside, but rather increased during the next six or seven months. The process was deferred for some days at the King's special request, the Assembly craving that, as they had delayed their proceedings, his grace would supersede his concerning the bishopric. The Commissioners of Stirling desired to provide a minister for their town, and two of the members were directed to "Mr Robert to crave his answer in writ if he will remain minister of Stirling or not." They reported when they returned, that he was lying in bed sick, as he alleged, that if the Commissioners of Stirling came to him, he should give them an answer, but that "as to the answers of the Assembly in writ, he received no ordinance in writ." Immediately the same brethren were directed to him with "an ordinance in writ," charging him absolutely to answer under the pain of disobedience. They returned and reported in the 18th session that he answered, if it pleased the General Assembly, he was content to leave with their good-will and consent of his flock. They presented also a sermon preached by him as his reply in effect to all the accusations given by Mr Andrew Melville against him. The Assembly answered that they would give him no licence to leave Stirling, and "commanded him to remain with his flock there, until he be removed by the

General Assembly under pain of the censures of the kirk." The day following, James Chisholm, the king's master of household, in His Highness' name "devised the General Assembly to discontinue all farther proceedings against Mr Robert Montgomery" until three or four of their number conferred with the Privy Council. The General Assembly, unwilling to precipitate a rupture with the Court, entered into negotiations. They "condescended to delay proceedings on these conditions, to wit:—that Mr Robert Montgomery should in no wise attempt farther concerning the acceptation of the bishopric of Glasgow, that his majesty will not use farther process against any of the brethren for his admission, and last, that the liberty of the kirk be not prejudged, but that the judgment of his cause pertain to them. His Majesty received the articles of accusation very graciously, and was content they proceed against him." They had thus secured the acknowledgment of their authority within the limits of their own jurisdiction—the great principle for which they were contending—and they lost no time in taking advantage of the concession. In their last sitting they gave "full power and commission to their brethren of the Prebytery of Stirling to summon Mr Robert Montgomery, minister thereof, before them, and to try and examine his life and conversation and accusation to be given in thereanent."—the specific charges anent doctrine being apparently dropped—"and what they found therein to report to the Synodal Assemblie of Lothian next, to whom the General Assembly gave power to proceed against him according to the trial and process deduced before the said Presbytery, under the pain of disobedience. And sielyke charges the said Mr Robert to continue in the ministry of the Kirk of Stirling, and not to meddle with any other office or function in the Kirk, namely, in aspiring or attempting to the bishopric of Glasgow against the word of God and acts of the Kirk, or to trouble or vex his brethren with his admission thereto, under the pain of excommunication to be led against him, whereunto if he disobey, after trial taken of his disobedience by the said Presbytery, the sentence of excommunication to be executed by them with advice and concurrence of John Dury, David Ferguson, John Duncanson, and John Dykes. And this charge to be intimated by the Moderator of the Assemby to the said Mr Robert that he pretend no ignorance thereof."

This Act of Assembly was transmitted in regular

course to the Stirling Presbytery, which it clothed with responsibilities so serious, at a critical juncture of affairs in Church and State that, as we perceive, it was deemed necessary to add to its numbers certain outsiders of distinguished courage and ability. The records, to whose pages we now revert, show to us how these responsibiiities were discharged. The Presbytery displayed no hesitation in obtempering the Act of the General Assembly with all proper formality aud speed. "The 21st day of November, 1581, presentes, Patrick Gillespie, Mr Robert Montgomerie, Mr Andrew Yung, the laird of Gairden, Mr Alexander Yuille "—master of the grammar school of Stirling—"Umphra Cunningham." The Moderator produced ane writing sent to the brethren from Mr John Craig, moderator to the last General Assembly, together with ane Act of said Assemblie concerning the trial of some accusations to be given in against Mr Robert Montgomerie touching his life and conversation, and his residence at the Kirk of Stirling, Quhilk writing and act being seen and considderit be the brethren, the moderator at their command made intimation of the said act to the said Mr Robert and delivered him ane copy thereof in presence of the Session. The said Mr Robert being required according to the desire of the Moderator's bill, if he had received intimation of the said act of before, from the said Moderator of the General Assembly, answered that the intimation made to him of the said act be Mr John Craig, moderator of the General Assembly was sufficient and granted the same duly intimated, albeit all circumstances was not observed. Further the said Mr Robert being required upon the heads of the Act, first if he would be content to abide the trial of the eldership of Stirling in his life and conversation and accusations given thereanent, answered he was content to abide trial before the said Presbytery whatever should be laid to his charge either in life or doctrine. Secondly, being required if he would remain minister at Stirling, answered that he would remain at Stirling, God willing, to the next General Assembly and langer as the Kirk would command him. Thirdly, being desired that he should not mell with no other function nor office and namely, that he should not aspire to the bishopric of Glasgow nor trouble the brethren with his admission thereto, answered that the matter was wechtie and therefor desired ane reasonable day to advise with his answer. The Assemblie (Presbytery) appointed him the 28th of this instant to give ane

resolute answer thereunto, to the quhilk he agreed. Ordaine an answer to be sent to Mr John Craig of his bill conform to Mr Robert Montgomerie's answer."

The following week, on the day appointed, the Presbytery held its meeting as our next extract describes. "The xxviii. day of November, 1581. The quhilk day being assigned to Mr Robert Montgomery with his own consent to give ane resolute answer to the last part of the Act of the General Assembly, that is to say, that he should not mell with onie function or office in the kirk, but of the ministry at the kirk of Stirling, and namely, that he should not aspire to the bishopric of Glasgow, nor trouble his brethren with his admission thereto, James Duncanson, scribe to the Assembly, produced ane writing of the said Mr Robert, direct presently to the said Assembly, whereof the tenor follows :—'Brother James, because I am shortly by my expectation to ride for some business qlk I shall show before the brethren of the Presbytery, the Magistrates, elders, and deacons of our congregation, I pray you excuse my absence at your hands, for I intend by God's grace shortly to return and to await as becomes me upon my chairge. Praying you to request my brother, Patrick Gillespy, to support my absence, as I shall be ready again in like manner as becomes brethren, not doubting he will do the same baith for your request and mine, and the Lord preserve you and them in the Lord. At Stirling, this 23 of November, 1581. Sic subscribitur, your brother in the Lord, Maister Robert Montgomerie, minister at Stirling.' Quhilk writing being considered by the brethren, was found to report no answer of that part of the act above specified, conform to his promise neither yet ony reasonable excuse of his absence, and therefore ordains ane summons to be direct chairging him to compear before the session of the eldership, the fifth day of December next, to give resolute answer to that part of the act specified, with certification, and (if) he compear not, the Assembly will proceed against him according to the Act of the General Assembly."

On the fifth of December a rather imposing sederunt is recorded, but Montgomery was conspicuous by his absence through a blunder committed by a messenger, who, as will subsequently appear, probably acted in collusion with the accused. The brethren, however, had no difficulty in circumventing the obstacle placed in their way. "The v. day of December, 1581. Presentes Patrick Gillespy,

Mr Andrew Young, Mr Alex. Fargy, Adam, Commendator of Cambuskenneth; David, Commendator of Dryburgh; Alex Forester of Garden, Adam Spittal of Blair Logy, John Shaw of Bruich, Humphrey Cunningham, Duncan Nairn, Mr Alex. Yuille, Robert Alexander, John Auchmuthy, baillies; Duncan Leishman, Dean of Guild, and Mr Wm. Norwell, Maister of Wark. It being asked if Mr Robert Montgomery was summoned according to the act of the last session, it was answered by the Moderator and Scribe of the session that the summons was sent and delivered with the copy thereof, to Gilbert Christisone who, eftir the receipt of the same, neglected the execution thereof and thereeftir. The brethren being avysit with the ordinance made before upon the 21st day of November last, concerning Mr Robert Montgomery's residence at Stirling in serving the ministry thereof, and that he should not aspire to any other function, namely, the bishopric of Glasgow, nor trouble his brethren with his admission thereunto according to the act of the General Assembly then intimat to him, finds that the said Mr Robert has not made residence at the Kirk of Striviling conform to his promise then made before them, but has been continually absent sensyne, and so has broken that part of the act of the General Assembly. And also has not given answer to the other part of the said Act concerning his aspiring to the bishopric of Glasgow and troubling of his brethren with his admission thereunto, according as it was then ordained with his own consent, and so has disobeyed that part also of the Act of the General Assembly. Wherefore ordains the said Mr Robert to be summoned before them to the 19th day of December instant to hear and see himself decerned to have contravened and broken the heads foresaid of the Act of the General Assembly, and therefore to be subject to the censures of the kirk contained in the said Act. With certification [whether] he compeir [or] not they will ordane the sentence of excommunication to be pronounced against him with the advice of the brethren contained in the Act of the General Assembly foresaid."

The words deleted by the Clerk suggest that the Presbytery had already made up their minds on his case, and that they were desperately in earnest in their efforts to force on his withdrawal from the Bishopric, and so to secure the discomfiture of their opponents at headquarters. Nothing less than a vital point in the constitution and government of

the Church, as well as the preservation of her patrimony, was at stake, and one can read between the lines penned by the "scribe to the Assembly" the notes of a far-reaching contest between the civil and spiritual powers. The narrative, however, is written in the formal style of ordinary minutes of procedure, and only betrays at rare intervals signs of personal feeling.

On the 19th of December Montgomery is present. "Qlk day ane summons being produced, lawfully execute and indorsit upon Mr Robert Montgomery to hear and see him decerned to have contravened the Act of the General Assembly in not satisfying the desire thereof upon the 28th November last bypast conform to his promise. Compeared the said Mr Robert, confessed that the cause why he kept not the day appointed was upon occasion that he was desired to come to Edinburgh for reasonable business that he had ado, and meant no contempt of the Kirk. And whereas he was accused for absence from his flock upon ordinary preaching days and assembly, promises in time coming not to depart from his kirk before he show them and obtain either license of his own kirk, or theirs of the eldership. Secondly, as touching the part of the Act concerning his aspiring to ane other function, namely, the bishopric of Glasgow, and troubling of his brethren with his admission thereunto, he answers that he means not, nor will, nor shall be ony ithur bishop, but sic ane bishop as Paul teaches in his epistle to Titus, and Timothy—that is, a minister and preacher of the word of God, and promises never to trouble or vex his brethren with his admission to the bishopric of Glasgow."

It was a feigned submission. He was on the very eve of accepting, if he had not already accepted the office which he here solemnly renounces. But the Presbytery were not to be deceived, and a week later they began consideration of the case, as remitted to them on its merits. We read in the Register as follows:—"The 26th day of December, 1581, the brethren thought good that Mr Robert Montgomery's life and conversation should be tried by them conform to the Act of the General Assembly. And it being reasoned if ony slander was therein, it was found by the brethren that he was bruitit with intemperance of his mouth, so that sometimes eftir meikle drink, his senses wald fail him. And likewise the brethren finds that his doctrine is not formal nor sensible to the common people, and that his jesting in pulpit is not decent at some times.

Therefore ordains him privatlie to be conferred with touching the heads above specified." This resolution is put into definite shape at the next meeting. "On the second day of January, 1581," (1582, the year then ending in March), "the brethren nominates and ordains Mr James Pont, Mr Alex. Yuille, Alex. Fargy, and Patrick Gillespie to confer privatlie with Mr Robert Montgomery concerning those things wherein they find fault concerning his life, and also wherein they find fault concerning his doctrine, and ordains them and him to convene to that effect in the said Mr Robert's house, fifth of January instant, at 10 hours before noon, and to report his answer to the next session."

The conference and subsequent inquiry being private, particulars are not fully given, but his intemperate habits were no secret. One instance is related by Calderwood to have happened at the late stage of his brief authority as bishop, when he was seen chasing his man-servant through the streets of Dalkeith, the residence of his patron, the Duke of Lennox, in a state of intoxication, with a drawn cutlass in his hand. At the next meeting of the Presbytery, held four days after the interview resolved on, the brethren appointed for the purpose make their report on this and the other failures of conduct attributed to him. But Montgomery, again the accuser of others rather than his own apologist, has a special complaint to prefer, which takes precedence. It is styled in the rubric, "Mr Robert Montgomerie's complaint on the Sessioun of his awin kirk." "The ix. day of January, 1581 (2). Presentes Patrick Gillespie, Mr Robert Menteith, &c., Mr Robert Montgomery complained upon Duncan Leishman" (Dean of Guild and an elder), "showing that at the ministration of baptism he reproved the said Duncan and others, witnesses to ane bairn baptised because they gave dyvers names to the same, saying they were in the wrang. The brethren ordains the said Duncan to be summoned the xvi. day of Januar instant to answer to the said complaint under the pain of disobedience. Likewise the said Mr Robert complained that the elders of his kirk kept not weekly assembly with him. Therefore ordains Mr James Pont, Patrick Gillespie, and Mr Alex. Yuille to confer with them that their ordinary assembly may be observed, and that things that are out of order amangs them may be reformed." Then follows the report—"The brethren appointed to confer with Mr Robert Montgomery reported that in conference with him concerning his doctrine

he confessed that sometimes through lack of memory and negligence in his study and awaiting on his kirk, being occupied in other affairs, he keipit not sic formality and sensibleness in doctrine as become him, qlk he promised God willing to mend in times coming. And as to his life and conversation, first where he is bruitit with intemperance, confessed that he has been some times langer deteined in company than become him, qlk God willing he promises to mend in times coming. But his conscience buir him witness that he was never so overcomit with drink that his senses failed him. Secondly, where he is bruitit of greed and avarice in taking eleven merk for the hundir contrary to the common order in the country, he did not precisely deny the same." Eleven per cent. meant extortionate usury even with money much dearer than now. "But said that the money he had laid on land"—lending on land-mortgages"—"he had given mair for viii. merk nor for x. Thirdlie, being askit how he could of safe conscience intromit and mell with the patrimony of the bishopric of Glasgow, seeing he served at the kirk of Striviling, and had ane stipend therefor, and neither served the cure of the Kirk of Glasgow, neither yet bestowed ony part of the said patrimony upon sic cause as the same was ordained for, he answered that if the Kirk fand that he could not bruik the said patrimony of safe conscience he should demit the same. Quhilk answer being considered by the brethren, because the said Mr Robert denied the vice of intemperance wherewith he was bruitit they thocht gude and ordained Alex. Forester of Garden, Patrick Gillespy, Mr James Pont, Humphrey Cunningham and Mr Alex. Yule, or ony three of them, to tak privy inquisition of the said bruit and what they find thereby to report again."

Three appearances of Montgomery's name in the minute book under date the 9th and 16th January, 1581 (2) ought here to be mentioned. They have no relation whatever to the process depending against him, but in each case the name is deleted and that of his successor in Stirling after his deposition, James Anderson, is written instead. The first occurs signed by himself in a list of the brethren who agree that "whatsoever minister or brother of the exerceis sall fail in making of the exerceis on his ordinar day sall pay ten shillings money and gif he fail in making of addition or speaking in the second place upon his ordinar day, viz., the day of exerceis immediately preceding the day of his awin

ordinar exerceis sall pay five shillings as for the first fault, and the penaltie the second time to be dubillit, and the third time trepleit and applied to pius uses." The second, written by the Clerk on the 16th day of January, heads "the catalog of the brethir of the exerceis and order to be observed be theme in following (each) uthir in exercise," and the third, also on 16th January, signed by Montgomery and the rest of the Presbytery, is appended to a mutual agreement to fine themselves for absence from the eldership the day of exercise, "for the first fault twa shillings, second fault dubillit, and the third fault trepleit, and gif any reader be absent he sall pay, the first fault vij.s second fault dubillit, and the third fault trepleit without ane reasonablle excuis."

For all the just suspicion in which he is held, Montgomery is still numbered among them and obtains part in their ministry. "On the vi. day of February, 1581 (2), Presentes Patrick Gillespie, Mr Robert Montgomery, John Duncanson, Mr Alex. Chisholm (minister of Muthil) and others. It was thocht gude be the brethren that every minister within the eldership should declare what text they leetit in their kirk and what authors they followed. So many as was present declared as follows—Mr Robert Montgomerie, the first book of Moses called Genesis and first chapter thereof and the xiii. Sunday of the catechiss, his commentators (blank). Mr Andro Yung is presently to begin the harmony of the 3 evangelists and the (blank) Sunday of the catechiss, his comentars Calvin, Beza, and Gwalteir on Louk, Patrick Gillespie the first epistle of S. Johnne the v. chapter and beginning thereof his commentars, Beza, Calvin, Gwalteir. Alex. Fargy the xiii. chapter of the Evangelist Mark, the 17 verse, his commentars Marlorat, Calvin, and Musculus. Robert Mentayth the Acts of the Apostiles the v. chap. his coment. Brentins—"Brenz of Suabia, the other expositors are French or Swiss Reformers; Marlorat was martyred in 1562"—Mr Wm. Stirling, younger, is ordeanit to begin the catechiss, his coment (blank). Patrick Layng is ordained to begin the articles of the believe (apostles' creed), his coment (blank)."

In explanation of the reference to Sundays of the Catechism, it may be stated that in the earlier editions of the book of Common Order, a translation of Calvin's catechism accompanied the form of prayer and ministration of the sacraments as used at Geneva, and that a certain portion of the catech-

ism was appointed for every Sunday of the year. Some of the ministers like Montgomery, chose the catechism to lecture from, others, as his able and zealous colleague Patrick Gillespie, did not. It is like a gleam of light issuing between clouds to find him associated with his brethren in those tasks of his sacred calling through which, at an earlier period, he had obtained an honourable name. In striking contract there almost immediately follows a long defence of himself against his accusers, distinguished by such a want of clearness, force, and candour as excites our astonishment at his previous reputation.

On the 6th February, 158I (2)—the day on which the ministers gave in their texts—his defence, which assumed the shape of a complaint against the private and arbitrary nature of the inquiry ordered by the Presbytery, was read. My transcription retains the brackets which are in the original, but the punctuation is conjectural, and the sentences are sometimes disjointed and difficult to construe. "Compeared Mr Robert Montgomery, and complained of the privy inquisition taken of his life and conversation, as ane writing, given in by him bears, quhairof the tenor follows:—'Grace, mercy, and peace, from God the Father of our Lord Jesus Christ. So be it. Loving brethrein, I have obeyed the ordinance of the General Assemblie, and your desires thereanent, and likewise your privy admonition to me has been tane in gude part, and our mutual conferences bayth towards doctrine and conversation (by God's grace to be amended, whereof we have all need!) It appeared to me ye were well satisfied, and that ye would report the same brotherly and faithfully to the Presbytery (and gaif thanks to God therefor.) How is it that ye have entered, and by what rule of the Scriptures, lawful and formal proceeding, has tane and intends to tak privy inquisitions of certain persons as ye please, not summoned, against another of doctrine or conversation, I not being heard, warned, nor called for my interest to say for myself and my lawful defence admitted, if need be, against ye? Judge, the inquest, the witnesses, the form and members of an informal process; for no lawful process can be, but where is ane lawful judge, ane pursuer and defender, cause and circumstances requisite, time, place, and order agreeing with the law. That is, if it be an inquest, they maun be lawfully summoned and the party heard, and his lawful defences. What may be said against them of the law (thir nets) as partial counsel? Givers up

of delations, judgers of themselves to be examined has been accusers of the party, has shown themselves enemies by word and deed, uttering their malice and envy, always by certain signs of high comtempt, ought neither to be judges in quest nor ony lawful member of a lawful process against the party defender, where ony of thir is true and may be verified. Nor yet can ony accusation be lawfully deduced and used, but when the defender is first heard and his lawful defences, neither yet ought an elder (that is, ane preacher) be accused, but by the witnessing of two or three witnesses. Nane of thir is observed by you that I know and therefor wald be teichit, Therefore na lawful process can be used, meikle less ane lawful sentence pronounced. And prays you, brethren, in the name of God to be warned ye open not ane door to the wicked in the Kirk of God by privy inquisition against any minister of his doctrine and conversation by certain privy persons, who, of malice against yon ministers' zeal in doctrine and discipline will speak slanderously of him, (yea, of the maist godly) unrequired, meikle mair when they are required. Specially quietly, 'he is a proud man, he is a greedy man, a partial man, a flyter, a drunkard, a common companion at cards tables, the four hours penny' and sic lyke. For mair nor eneuch of sic slanderous and wicked persons is in every congregation, that regards neither preaching nor discipline nor correction ony way. And if a minister's preaching, conversation, or discipline shall be offered to this privy Inquisition without his knowledge I don't know but witnesses shall be found against him to condemn him. And therefore, brethren, yet beware in time of sic practicks ye use with me, that ye trouble not the maist part of the brethren. But what ye can agreeing with the scriptures by lawful and formal order, equitably and brotherly handled, as ye would be done to, I am contented therewith, as I shaw you in the beginning that I would obey the kirk in all things, that I accept and that appertained to the Kirk. And of this I marvel, wherefore thir new accusations or inquisitions comes now (of new things or of auld things) mair nor afore this lang time bygane. Qlk if ony was of a truth they cam not to my knowledge. For if ony persons had had onything against me in particular or yet the Kirk ony way they had place and I was ready to answer. Not doubting, brethren, (of our auld and brotherly familiarities in God) but ye will admit my lawful petitions, that is, that I

may be heard and my lawful defences before ye conclude or pronounce ony act, qlk ye promised to do; and that no accuser, witnesses, nor inquisition should be against me, but sic as I should know and to have place to say against them, according to equity. If ye say ye are commanded by the kirk, the ordinance makes na mention of inquisition but of trial of conversation. I understand by "lawful" means as I have said. If ye say the Moderator has commanded by inquisition, he is not above the ordinance of the General Assembly nor yet interpreter thereto. If ye stand at the word inquisition ye have nae mair for you but an inquest. But quha shall choose them? What manner, what persons, what form, what circumstances, time, place and order? Whether by the haill Presbytery or by ane part? And quha saall choose that part? Nane of thir circumstances is prescribed to you in wrett for your warrand, and therefore, brethren, ye have passed, or intends to pass, farther than is prescribed to you. This meikle brotherly—that ye have further respect to the office I bear and the slander of the Word in my weak person (as we are all) nor to force farther nor ye would be forced upon any occasion where ye have not the rule of the scriptures and ane lawful and formal proceeding as betwixt the brethren in Christ. I praise God that in my weak person I am called to the light for trial of my doctrine, qlk is dearer to me nor my life, and examined of my conversation whereunto truly I have answered. Praying God that the Kirk may be purged in us all (specially ministers) for there is mair faults alleged against me within this short time nor all the time I have travellit the ministry this twenty bygane years to God's glory, the weil of His kirk and to the comfort of them to whom I was appointed as my conscience bears me witness, and the faithful report of the faithful. Not doubting that ye tak this in gude part, my brethren, by remembrance simply proponit and ponder the same as the matter crave, being ane common cause amongst brethern and interpret all in the best part. And where ye doubt and spiers I shall faithfully declare, or when ambiguity appears I shall expone and declare my mind as I can, equitably. And the Lord bless you and your assembly, Amen.

"Qlk writing being read and considered, the brethren promised to answer thereto the next session day the xiii of this instant. The same day Mr Robert Montgomery desires certain Acts concerning him to be extract to him. The brethren

ordains the said Mr Robert to mak ane catalogue of sic acts as he desires and they shall give answers thereto."

Montgomery's preliminary objections to the competency of the procedure, touched a weak point in the nascent judicatories of the Church, where, as has been often observed, prosecutors, judges, and witnesses may be one; but it was almost trifling with facts to raise a merely technical argument in vindication of the grave position in which he was placed. There must have been many extracts made, by the way, of the Acts against him, for the pages the of MS. are much worn and frayed at their edges over the extent covered by his case.

The Presbytery briefly answered his complaint at their meeting the following week. "The xiii day of February 1581 (2). Presents, Patrick Gillespie, Mr Robt. Montgomery, Michael Lermouth, Patrick Layng, Alex. Fargy, Robert Mentayth, Mr James Pont, Mr Alex. Yule, John Brown, Alex. Forester of Garden, John Shaw of Bruigh, Adam Spittal of Blairlogy, Umphra Cunningham, Robert Alexander and Wm. Norwell.

The quhilk day being appointed to give answer to Mr Robert Montgomerie's wreting gevin in befoir the brethren in the last session, the brethren answered as follows in wrett.

"Gif the ordinance of the General Assemblie be obeyit or not let the General Assemblie be judge, we sall truly report quhat is done.

"As to our privy inquisition we will answer to the assemblies provincial or general.

"Quhair ye say that that manner of inquisition is dangerous, lat him that is guilty fear.

"As to ony proess deducit befoir us, either tuiching on lyf or doctrine, there is nane intendit as yet, and sa soon as ony beis intendit (according to our promise) ye sall have place to use your lawful defences against either judge party or witnesses.

"We thank your of yor admonitions and promises to force you no farther nor we wald be forcit.

"The qlk day, Mr Robert Montgomerie gave in, in catalogue, certain acts desyrit of him of befoir to be extracted. The brethren ordains Mr James Pont, Umphra Cunningham, and Patrick Gillespie vesie *(viser)* the said acts, and being found to appertain to him ordains them to be extract."

Our next minute, only a fortnight later, brings us into direct contract with the event in Montgomery's life which has given him a

place in history. All the injunctions of the General Assembly that he should not meddle with the bishopric of Glasgow and his own repeated promises not to trouble his brethren therewith, were set at nought. Here is the way in which the news was received in the Presbytery of Stirling. "The xxvii. February, 1581/2/. The same day the brethren was advertised by ane writing sent from the brethren of Edinburgh before specified that there was letters already directed first at the [instance] desire of Mr Robert Montgomery to charge the brethren of Glasgow to admit him to the archbishopric"—the word arch is blurred by the scribe —"thereof. Quhilk thing the brethren understanding to be contrary to the Act of the General Assembly, and also his own promises made before them, ordains that sae soon as the said letters shall be put to execution charging the brethren of Glasgow therewith, that ane summons be direct to charge the said Mr Robert to compear before them to hear and see himself decernit to be excommunicat, because that he wittingly and willingly has broken the said Act of the General Assembly concerning the truibling of the brethren of Glasgow with his admission to the archbishoprick"—arch this time inserted above the line—"thereof and falsifying of his own promises made before them. With certification that the brethren will decern the sentence of excommunication to be pronounced against him with advice of the brethren contained in the Act of the General Assembly before specified, in case he leave not the suit of the said Archbishopric, and troubling of his brethren with his admission thereunto, and also refuse to accept the said Archbishopric upon him, because the same is ane function qlk has no warrand in the Word of God."

At their next meeting his attempted admission to the Archbishopric is not mentioned, although it had now become the central point of interest in the course of contemporary events, then moving very fast, but it stood in close relation to the special piece of business brought before the Presbytery—"The vi day of March, 1582. The qlk day compeared Wm. Norwell, one of the elders of the Kirk of Stirling, and in name of the particular eldership thereof, hereby complained of Mr Robert Montgomery's oft and frequent absence from his charge without licence obtained, contrary to his own promise, and of his intolerable negligence in preaching of the Word, ministration of the sacraments and using of discipline, whereof albeit he was ofttimes

admonished, yet there was no amendment made. And therefor desires that order may be tane with him by the brethren that their kirk be not neglected in time coming."

He had crossed the Rubicon, if the phrase may be here allowed, and could hardly be expected to retreat at the summons of the men in the face of whose distinct wishes and charges he had taken the decisive step. He found the political party, who were using him as their tool for their own particular ends, ready to support him, if need were, by force of arms, and his vanity was inflamed by the powerful authority which they seemed willing to wield on his behalf. He left Stirling—at anyrate he appeared no more at the Presbytery meetings—and two days after the Master of Works of the burgh had complained of his absence and negligence, he made a violent attempt to possess himself of the bishopric against the brethren of Glasgow, who had refused his admission. Accompanied by a band of guards he entered the church there on the 8th March, and the minister being in the pulpit, he pulled him by the sleeve, saying "Come doun, Sirra!" intending to occupy his place. The other refused, and would give place to none intruding himself without the order of the Church, so that "there was appearance of trouble unless the Laird of Minto had stayed the bishop and commanded him to cease." The Presbytery of Glasgow were in consequence summoned before the Council, when they appeared and defended themselves with the greatest courage. The Presbytery of Stirling, however, were not inferior to their colleagues in Glasgow in that bold and ready action which the crisis demanded, and they too were prosecuted, as we shall immediately see, for the fulfilment of their duty. The following minute embodies their suspension of Montgomery, and few remains of the period can vie with it in historical interest—"At Stirling, the xiii day of March, 1582. Presentes Patrick Gillespie, Andro Young, Mr Wm. Stirling, elder, Mr Wm. Stirling, younger, Alex. Fargy, Michael Lermonthe, Patrick Layng, ministers; Mr James Pont, Mr Alex. Yule, John Brunn, Alexander Forester of Garden, Robert Alexander, Wm. Norwell, Duncan Narne, and Mr Scott, exhorter at Callender. The qlk day, the brethren having deeply considered and diligently weighed the heavy absence of Mr Robert Montgomery from his charge, without any license being asked or given, and his intolerable negligence in preaching of the word,

ministration of the sacraments, and using of discipline, whereof being oftimes admonished, he never pressed to amend nor keepit ony promises made thereanent. But, by the contrary, does occupy himself continually in worldly affairs, and ungodly suits of unlawful honours, pre-eminence and riches, express against the Word of God, the acts of the General Assembly, and duty of ane true pastor, yea and his own promise, made bayth privatlie and openly in our assembly, as an act thereupon at mair length bears. And thereby to satisfy his insatiable greed and stinking pride, does what in him lies to wreck his brethren, to stir up ane lamentable schism [and trouble] in the Kirk of God and the Commonwealth, and to inflame the hearts of our Sovereign Lord, and his chief nobility against his maist faithful subjects, quhilk to perform, he daily mair and mair insists, and had already performed, were not the ardent zeal and singular love His Majesty bears to the undoubted truth of God, and professors thereof. Thir wicked attempts being mair than manifest, and in that by mony and sundry, it may well appear that he has little or no regard of faith, promise or office, without care, love, and zeal, toward the Kirk of God, and profession of His word, slanderous in life and conversation, without feeling of conscience in his calling, whereof proceeding no appearance of amendment so that the slander daily increases in his presence to the great grief of all gude men, and joy to the common enemies of the cross of Christ, and that he, in the mean season, either continually absents himself, in running forth his course, or then, by indirect means goes about to stay all proceeding against him for sic enormous vices. Therefore, the brethren, mindful what should be their duty in removing sic open slander and punishing so abominable faults partly already tried and published, partly to be detected and shown in their own time, according to the power committed to them by the word of God, thocht the said Mr Robert worthy to be suspended, and suspends him from all function in the kirk of God and exercise of any part of the ministry thereof, aye and until by humble repentance he satisfy for the said crime to the contentment of the kirk of God, and the faithful in the same, whom he has grievously offended, and ordains him to be summoned to compear before the General Assembly to be held in St Andrews, the xxiiii. day of April next to come, the third day of the said Assembly, viz., the xxviii. day of April foresaid, to see this sentence

approved or enlarged, in case he persevere in his wicked mind and purpose. And also ordains intimation to be made to him of his suspension as effeirs."

For this intrepid act, and notwithstanding the assurance of the King that he was satisfied with their process against his titular prelate, they had to appear and answer before the Council at Holyrood House.

By the mutilation and removal of a certain portion of its contents the Register of the Privy Council is defective precisely where we look for fuller light on the relation subsisting between that body and the Church. Such as it is, it affords sufficient evidence of their mutual antagonism. The majority of the Council and Court were inclined towards the establishment of Episcopacy; some of them were darkly working for the restoration of the imprisoned Queen and her association in the government with her son, and one or two only, like Adam Erskine, Commendator of Cambuskenneth, were also members of Presbyteries and staunch supporters of the Presbyterian system. In the throes of a new epoch and under the various currents of tendency and motive operating upon them, the ecclesiastical question claimed their chief attention, not only from its inherent interest, but because the existence of the Reformed Church had been due to the will of the people rather than their own, and they had constantly to reckon with the popular element in its consideration, the General Assembly being far more representative of the mind of the nation than either the Council or Parliament. The legal basis on which they proceeded in their transactions regarding Montgomery was the order concluded at the convention in Leith in 1572, when, in a conference held with commissioners of the Church, it was agreed that qualified persons might be nominated to vacant bishoprics and archbishoprics, and that their election by their respective chapters should proceed according to certain forms contained in the order, the ministers who were to form such chapters being also specified. This was a hastily concluded arrangement, and less than a month after its approval by Regent Mar, John Knox refused to inaugurate the Bishop of St Andrews, in open audience denouncing "anathema to the giver and anathema to the receiver;" yet, like most compromises, it subsequently supplied both parties with reasons for justifying their action. On the one hand it sanctioned the nomination of

bishops and their institution at the hands of the ministers who represented the chapter of the diocese —deans, archdeans, chancellors, and so forth; on the other, as it placed the spiritualities of the office under the jurisdiction of the General Assembly, while giving power over the temporalities to the king it so far fell in with the views of Melville that he recognised "the bishops that now are" in the Second Book of Discipline, xi. 14. Montgomery himself quoted the very words of the convention when he said to the brethren he would be no other bishop than that of Paul in his epistles to Timothy and Titus. However crudely conceived, the order was there, Tulchan prelates had been appointed by virtue of its authority, and the Church was now struggling to escape from the toils in which it had involved her by suspending a bishop because, among other things, "such office hath no warrand in the Word of God."

In these circumstances the leading brethren of the Presbytery of Stirling appeared at Holyrood before the Council on the 20th March, 1582. What took place is not recorded in the Council Register. "They refused," says Calderwood, "to answer to them as judges in that cause." The date coincides with that of a meeting of Presbytery, when, as we can infer from the sederunt of the minute of procedure, the brethren summoned to Edinburgh were absent, the assessors named by the General Assembly acting in their stead. Both this minute and the one immediately following, although short, are important. If the report of John Duncanson, the King's chaplain, refers to the experience of the brethren before the Council it supplies us with information not otherwise obtainable; in any case it proves the continuance of the friendly attitude assumed by King James, while it is wholly silent on the matter of their declinature of the Council's jurisdiction. Throughout the whole of these proceedings, indeed, the young king shows to far more advantage than his advisers. He is undecided, always keeps something to himself, as he boasted, and is presumably disposed to favour an Episcopal polity, but yet on the whole the impression is left that he is a disinterested and intelligent critic of the movements in Church and State, and more sympathetically in touch with his subjects than the factious, intriguing, and selfish nobility and gentry surrounding him.

"At Striviling, the xx. day of March, 1582. Presentes Alex. Fargy, Mr Wm. Stirling, younger,

Michaell Lermonthe, Patrick Layng. Ministers—Johnne Durie, minister at Edinburgh; David Fargusone, minister at Dunfarmling; John Dika, minister at Culross; Mr Duncan Narne, Johnne Broun, William Stirling, William Scott, Mr James Pont, Alexander Forester of Garden, Adam Spittal of Blairlogy, Umphra Cunningham, Commissioner of Striviling, Alex. Patersone, Duncan Narne at Bannaburne, and William Norwall. The qlk day ane summons being produced, lawfully execute and indorsed upon Mr Robert Montgomery charging him to compear this day to hear and see himself decerned to be excommunicat as the summonds bears in the self, the said Mr Robert being oft times called and not compeared the brethren finds that justly they might proved against him, yet, because that ane gude part of their number was absent, and specially John Duncanson, ane appointed by the Act of the General Assembly to that effect, thocht gude that the day of farther proceeding against the said Mr Robert should be continued, that the King's Majesty might be advertised of their unreverent handling by the said Mr Robert, and that eftir the knowledge of his Highness' good mind and will thereintill. Ordains the said Mr Robert to be summoned *de novo* unto the synnodall assembly of the eldership of Edinburgh, Dalkeith, Linlithgow, and Stirling, to be held in Edinburgh, the 3rd day of April next to come, to hear and see himself decerned to be excommunicat for his wilful and contemptuous breaking of the Acts of the General Assembly, contravening of his ain promises made before us, and others notorious crimes that the said Assembly has to lay unto his charge, or then to show ane reasonable why the same should not be done, with certification and he compear not the said Assembly will decern and ordain the sentence of excommunication to be pronounced against him."

Two days afterwards the King and Court removed to Stirling to be present at the baptism of the Earl of Arran's child, and the change was convenient for the trial of the three bodies, the Presbytery of Stirling, the Presbytery of Glasgow, and the Synod of Merse and Lothian with all whom the Privy Council had now to deal. The presence of the King in their immediate proximity appears, however, rather to have stimulated than discouraged the Stirling brethren. Montgomery's case engrossed their entire attention at the next meeting, and I transcribe the whole minute. "At Striuiling the xxvii

day of March 1582. Presents, Patrick Gillespie, Johune Duncansone, Mr Andro Young,"—absent at the previous meeting—"Mr Wm. Stirling, elder; Patrick Layng, Michael Lermonth, Robert Montayth, Thomas Swintoum, Andro Forester, ministers. Mr Wm. Stirling, younger, Mr Alex. Yule, Wm. Scot, Mr Duncane Nevein, Adame Commendator of Cambuskynneth, Alex. Forester of Garden, Adame Spittale of Blairlogy, Umphra Cunningham, Commissioner of Striuiling. and Robt. Alexander." "The qlk day the brethern being advertised of the King's Majesty's [mind] gude will concerning the proceedings against Mr Robert Montgomery, bayth by ane writing sent to them by John Dury, and also by John Duncanson's ain report, thocht gude and ordains ane summons to be direct, to summon the said Mr Robert to compear before the Synodal Assembly at Edinburgh the iii day of April next according to the ordinance contained in the Act thereanent in their last session."

In order to follow the trial of strength going on at this time between the Kirk and Court we must now leave the Presbytery Book and look for a little at the proceedings of the Privy Council. The Glasgow Presbytery had been summoned to appear on 4th April, the day after the meeting of the Synod of Lothian, but the presence of both bodies happened conjointly a week later. No sooner had the Synod met in the East Kirk of Edinburgh than they were charged by an officer of arms at the instance of Montgomery to appear on the 12th before the Council at Stirling, whither on the 11th the ministers of the Presbyteries of Dalkeith, Linlithgow, and Edinburgh, with divers elders repaired, and consulting with the brethren of Glasgow on the matter, agreed to decline the authority of the Council, while willing, at the same time, that the King or any of his counsellors should hear them *extra judicium*. On their being called, Robert Pont, after some discussion answered as had been arranged between them, whereupon the King and the Duke of Lennox left the room and they were not called upon again. A copy of this declinature was given them by the Justiciary Clerk with some hesitation. Its terms form a prominent landmark in Scottish history. "They altogether disassentil to accept and admit his majistie and the saids lords to be judges competent in their cause, being ecclesiastical, as they allegit, quhilk properly appartenit to the judgment and jurisdiction of the kirk." On the following day, they secured a personal interview with the king,

when Dury told him it behoved them to proceed to the excommunication of Montgomery in case he proceeded farther in the matter of bishopric. The king said, "we will not suffer you." "We must obey God rather than man," was the stern, almost scornful reply, "and pray God to remove evil company from about you." The king, we are told, seemed to be much moved and not far from tears. In the previous debate in the Council, great animosity was shown towards Thomas Smeaton, Principal of Glasgow College, and Andrew Hay, minister of Renfrew, men of distinguished learning and bravery, and who represented the Chancellor and Dean of the See, because of their refusal to act as Episcopal dignitaries for the election of the nominated archbishop. Montgomery, who was present, gave the rein to his malice, and insinuated that Hay was implicated in the murder of Darnley, the king's father, because his brother's son, the laird of Tallow, had been executed for that crime. Hay was by no means put out or alarmed. He calmly protested on behalf of himself and his colleagues, as the Privy Council decree dated at Stirling Castle, 12th April, informs us "that nothing to be done in the judgment should in any wise prejudge the word of God, liberties and privileges of the kirk, nor the laws of this realm made anent the same. Qlk protestation," continues the edict, "with diverse others reasons being heard, the king's majesty with advice of the saids lords, finds and declares that in respect they—the ministers of Glasgow—had delayed to follow forth the said order and form, agreed on at Leith, the right disposition of the said bishopric is devolved in his highness' hands for such disposition to whom his highness thinks gude." The Presbyteries of Edinburgh, Stirling, and Dalkeith, "quhilk elderships intends maist obstinately and disobediently to proceed to excommunication against him," and all other Presbyteries, Provincial Synods and General Assemblies were discharged from proceeding against Mr Robert Montgomery.

One would naturally expect to discover in the Presbyterial documents some trace of this sentence of the Privy Council. It is absolutely ignored. How little effect it produced on the conduct of Montgomery's case the next quotation from the minutes—a purely formal one in appearance, but really of considerable significance—shows. It certainly gives the lie to Montgomery's allegation at the ensuing General Assembly, that he only knew of his suspension by common report, and it was pro-

bably extracted for that very purpose amid scenes far distant from those which meet the eyes of the present transcriber and his readers. "At Stirling, the xvii. day of April, 1582, presents Patrick Gillespie, John Duncanson, Mr John Porterfield, Alex. Fargy, Mr Wm. Stirling, elder, Mr Wm. Stirling, younger, Patrick Layng, Mr Alex. Yule, Wm. Stirling, John Brown, Alex. Forester of Garden, and Duncan Narne. The qlk day, Wm. Stevenson being asked if he had made intimation to Mr Robert Mongomery of the Act of Suspension pronounced against him the 13th March last, conform to the command given to the said Wm. thereanent, the said Wm. affirmed that he made intimation thereof to the said Mr Robert personally apprehended and delivered ane copy of the said Act of Suspension, quha received the same and that upon the penult of March, anno 1562, in presence of John Murray, Patrick Kinross, and (blank) M'Lintock."

His case had finally passed out of the hands of the Presbytery, and two months elapsed before his name was rewritten in its register. The interval was filled up with events bearing directly and deeply on the fortune and fate not only of Montgomery, but of the church and kingdom. They are related at greater or less length in every history of Scotland, and only some notes of indication are here required. The General Assembly, by which the sentence of suspension was to be confirmed, was held at St Andrews, and met on the 24th April. Montgomery, having been cited, appeared, and made the statement above referred to, which the Assembly, of course, easily disposed of, and were entering on consideration of the case, when Mark Ker, the Master of Requests, delivered a letter from the King, charging them in terms of the late Act of Council to desist. They promised that nothing should be handled belonging to the civil power, and went on. A second message came by an officer of the Council, charging them more peremptorily, and certifying that he would denounce them rebels and outlaws. The Assembly persisted and resolved to deprive Montgomery of the ministerial office in all time coming. The sentence of excommunication was about to strike him, when he yielded. He manifested the utmost penitence, confessed the crimes and offences laid to his charge, and promised to meddle no farther with the bishopric or with anything else without leave of the General Assembly. The excommunication

accordingly was not pronounced, but to guard against his vacillations, powers were left with the Presbytery of Edinburgh to depose and excommunicate him, should occasion arise, the Presbytery of Glasgow being enjoined to watch if he kept his promise. Alas! for the inconstancy so often demonstrated of the weakly ambitious. Once more Montgomery, finding that his timidity had offended the court and upset its designs, became untrue to his promise, "followed the Duke and taught before him at Dalkeith," against whom John Davie inveighed so vehemently that he was banished from Edinburgh. On the 22nd day of May, Thomas Smeton came from Glasgow to Edinburgh, to crave the Presbytery that he might be excommunicated, and a summons was directed to him on the Saturday thereafter, but was not delivered in consequences of its bearer, the bellman of Dalkeith, being cast into prison at the Duke's command. On the eighth of June, 1582, a charge to appear before the Privy Council was made to the Presbytery of Glasgow, and while they were engaged in answering it by issuing a decree in their turn against Montgomery, the Provost and Magistrates, partisans of the Council, dragged the moderator from his chair and put him into the tolbooth, in consequence of which riots ensued, and several students who defended the ministers with "jakkis, steel bonnets, hagbuttis, and pistolletis," were injured. The resolution, notwithstanding, was duly passed and minuted, and forwarded to Edinburgh, where the Presbytery immediately met and appointed John Davidson to pronounce the sentence of excommunication next day, Sunday, 10th June, in the church of Liberton. This was accordingly done, and intimation made of the fact in most of the churches of the south and Glasgow on the following Sunday. Davidson, who deposed Montgomery, was a man of slight stature, but of indomitable energy and courage in the cause of the church. The Duke of Lennox called him "un petit diable."

Montgomery's career as a bishop had thus practically came to a termination, for although the King asserted his right to institute him apart from the authority of the church, it was an idle threat. He could not possibly make a bishop of an excommunicated person, nor could he resist the daily increasing influence and authority of the leaders of the General Assembly. Having got rid of Montgomery, they now directed their attention to the grievances which they had endured in connection

with his appointment, to the violence offered them in the discharge of their spiritual functions when judging his case, and to the slander occasioned by those in high places who continued to support him after being excommunicated. The Earl of Gowrie was summoned before the Presbytery of Edinburgh for giving a banquet to Signor Paul—one of Lennox's retinue, a murderer at the massacre of St Bartholomew—and receiving Montgomery into his house. He submitted and confessed his offence. The Provost and Magistrates of Glasgow were similarly dealt with by the General Assembly for their behaviour towards the Presbytery there. The Duke of Lennox himself was visited by a deputation of brethren to admonish him that if he continued disobedient the Assembly would proceed according to their acts, and his interrogative answer whether the Kirk or the King were superiors concisely set forth the question of the hour. At last it was determined by the Assembly in June, 1582, after an energetic and long remembered opening sermon by Andrew Melville, in which he denounced the bloody gully of absolute authority, to present to the King and nobility at Perth their chief grievances, fourteen in number, every one of which bore upon or arose out of Montgomery's appointment to the Bishopric of Glasgow. As a counter blow on the part of the Council his excommunication was publicly declared null and void at the cross of Edinburgh on the 2nd July. Undaunted by this hostile declaration, on the 6th of July, a bold and earnest band of ministers, with some of whose names we have become familiar, and two of whom, Patrick Gillespie and John Porterfield, are mentioned in the last extract, set out for Perth, where on arrival they were ushered into the presence of Lennox, Arran, and the King. Their remonstrance was delivered and read. "Who dare subscribe these treasonable articles?" said Arran, with a "thrawn" countenance. "We dare," answered Melville, "and will render our lives in the cause," and saying so he took the pen and subscribed and called courageously on the rest to subscribe, which they did. The Duke and Arran perceiving their boldness became afraid, and after some calmer language they were dismissed in peace.

The narrative of the heroism of these men cannot be too often repeated, but it has carried us a short distance away from the immediate subject in hand, Montgomery's personal history. Little more, however, can be related, for obscurity and neglect

speedily overtook him. The sentence of excommunication was no light one in those days, and must have borne down with full weight on a character so generally detested as Montgomery's. On the 25th July the magistrates of Edinburgh, on being informed by the minister, Mr James Lawson, that he was in their streets, expelled him from their town. but within twelve hours, by his influence with the Duke, a proclamation was made at the Cross, declaring him to be a good Christian and a true subject, and charging everyone so to accept him, notwithstanding the excommunication. Under the shield of this proclamation he returned. It was all in vain. After some hesitation the Provost and the magistrates, with the consent of the Lords in Session, although against the desire of the Earl of Mar, again expelled him. As he issued from the Tolbooth, where he was waiting, a crowd of craftsmen with sticks, and wives and boys with rotten eggs assailed him so that he barely escaped with his life by the Potter Row Port to Dalkeith. When the King heard of it he lay down on the Inch of Perth, unable to contain himself for laughter, and said "he was a seditious loun."

There are one or two minutes remaining in the Presbytery record which refer to the period of his excommunication, and convey to us a very vivid and realistic picture of its effects on Montgomery and those brought into contact with him. It will satisfy the purpose of this monograph if I simply quote them, appending an explanatory note now and then. I may here mention that the writer of the MS., to which I have been so much indebted, was also reader in the kirk of Stirling, and that Montgomery, among other faults he committed and confessed, had once rudely ordered him to resign his office. He may have been related to his more famous namesake, John Duncanson.

To conclude, then, these selections from his admirably performed handiwork :—"At Stirling, the iii. day of July, 1582, *inter alia*.—The same day ane summons being produced, lawfully execute and indorsed upon Robert Ramsay, notary, Stein Aikman, and Gilbert Chrystosone, charging them to compear before the brethren the said day to answer at the instance of the kirk for sic causes as eftir follows. Compeared the said Robert Ramsay personally, who being accused for conferring and talking with Mr Robert Montgomery, being lawfully excommunicated by the kirk and lawful intimation thereof made to the parishioners of the burgh of Stirling in

the pulpit thereof, answered that he saw not the said Mr Robert until he took him by the hand and then only craved from him some silver that he was awand to him, not knowing the said excommunication because he was at Dunune the time of said excommunication in the said kirk. Farther, being inquired if he drank with the said Mr Robert, the said Robert denied the said simpliciter. The brethren admonishes the said Robert Ramsay not to enter in the said Mr Robert Montgomery's company, nor in presence with him at no time fra this furth, so long as he was under the said sentence of excommunication, neither yet crave ony siller fra him except he obtain licence frae some of the brethren of before, under the pain of the censures of the kirk. Compeared Stein Aikman personallie, and being accused for receiving Mr Robert Montgomery, being excommunicat in his house, and entertaining of him therein; answered that he never received him in his house, nor yet spak with him, sen he was excommunicat. The brethren, therefore, admonishes him fra this furth so long as the said Mr Robert is under the sentence of excommunication, not to eat, drink, confer, nor talk with him, &c., under the pain of the censures of the kirk. Compeared Gilbert Chrystosone, als thome" (*alias* Thom; it will be remembered that a Gilbert Chryssone neglected to score the first summons on Montgomery), "and being accused for drinking with Mr Robert Montgomery, being excommunicat and intimat as said is, and talking with him, and leading his horse fra the toun end of Stirling to the park yet, the said Gilbert confessed the hail premises, and therefore was ordainit by the brethren to mak publick repentance at the publick place thereof in the parish kirk of Stirling, on Sunday, the 15th day of July next."

It might be inferred from the fact that Montgomery had failed to pay his debts, that his circumstances had become embarrased and this conjecture is supported by the decree of council issued from Perth on the 10th July confirming the Bishop of Glasgow in his emoluments. It sets forth that since "ane reverend father, Robert, Bishop of Glasgow, is lawfully and duly provided to the said archbishopric with all lands, rents, regalities, fruits, teinds, castles, towers, fortalices, and other duties whatsoever," and since certain feuars will not obey and make payment, therefore "letters are direct to all the feuars farmers, charging them to make payment to the said reverend father of all and

sundry fruits, rents, and other emoluments of the croppis and yearis of God, 1581-1582 years, instant and slclyke yearly in time coming." He had high friends, this son of Montgomery of Hassilhead brought up in the stately mansion house at Cambuskeith, and so long as the Duke of Lennox was in the country he could reckon on their aid. But Lennox had shortly to depart, and the misery which is here being warded off, fell, in spite of that, upon his protegé. Meanwhile we gain another glimpse of its approach.

"At Stirling, the 17th July, 1582, *inter alia.*—The same day ane summons being produced, lawfully execute and indorsed upon Robert Wilson, tailor, Alex. Young, baxter, Andrew Squire, and Margaret Beveridge spouse to James Costello, charging them to compear before the brethren the said day to answer at the instance of the kirk for the causes eftir following and specifeit in the said summons. Compeared personally the said Robert Wilson, and being accused for receiving of Mr Robert Montgomery in his house, being excommunicat and lawful intimation thereof made in his parish Kirk, and entertaining at dinner therein: Answerit the said Robert and denied the same simpliciter. Farther, being accused for convoying of the said Mr Robert down the gait, confessed the same but alleged that he passed with him only to crave some siller he was awand him. The brethren admonishes the said Robert that he fra this furth talk not keep not company in eating, drinking nor ony uthir ways with the said Mr Robert so long as he remains excommunicat, under the pain of the censures of the Kirk, and continues their avysement with the said accusations till they get farther trial thereof.

"Compeared Alex. Young, baxter, and being accused for drinking and talking with Mr Robert Montgomory being excommunicat, lawful intimation thereof being made, as said is, the said Alex. denied that he drank with him, but confessed that he and Duncan Robertson was drinkand ane choppin of wine in Michael Gairdners tavern, at the qlk time Mr Robert came in upon them, and that the said Alex. spak na thing to him, but reproved him for his contemp of the Kirk, and he, at his awin, took up aff tbe burde their piece with wine and drank of it. The brethren admonished the said Alex. as they did the ssid Robert Wilson as before." Andrew Squire did not appear and was summoned anew. At their next meeting, "the second summons being produced, lawfully execute, and endorsed upon Mr

Andro Squire, charging him to have compeared this day to answer at the instance of the Kirk for entertaining of Mr Robert Montgomerie being excommunicat, as at mair length is conteinit in the summons raised thereupon, quhilk Andrew beingofttimes called compeared not. The brethren summons him of new."

The offence is repeated at their session on the 23rd July, 1582. "The quhilk Andrew being oft times called compeared not, therefore ordains the said Andrew to be summoned of new to hear and see himself decernit to be excommunicat for his contempt and disobedience." The pursuit is unrelaxing, and at the following meeting, 7th August, their perseverance is rewarded. "Compeared the said Andro personally, quha being accused for bearing of Mr Robert Montgomery familiar company and for talking with him, the said Andrew confessed that he was his tenant, and at his command he led down his horse before him to the toun end, and denyit that he bore the said Mr Robert ony farther company, neither yet drank nor eat with him sin he was excommunicat. Farther, being accused why he had so long disobeyed the summons of the Kirk and lawful chairge thereof, to wit, this month by past being four sindrie times summoned, neither yet sent no lawful excuse of his absence at no time, the said Andro could give no gude reason therefor. Wherefore, the brethren considering his great disobedience so oft without ony lawful excuse, ordained him to mak public repentance in the Kirk of Stirling at the public place thereof on the next Thursday that there should happen ane sermon to be made in the said Kirk, for his said disobedience, as he should be warned thereof by the officer." He must have refrained from doing penance, and therefore, "the 21st day of August, 1582, the qlk day ane summons being produced lawfully execute and indorsed upon Andro Squire, charging him to have compeared the said day to answer at the instance of the Kirk, and to underlie the censures thereof for his disobedience to the lawful ordinances of the same, quhilk Andro being oft times called compeared personally, quha being accusit for his disobedience, it was found by the brethren that the said Andro was nathing mendit, but continued obstinate and disobedient as of before. Therefore ordained to delate to the civil magistrate, viz., the provost and bailies of Stirling, the said Andro's contempt and disobedience to the Kirk, desiring them to adjoin their authority to the

authority of the Kirk in punishing the said Andro till he be moved with repentance and offer himself to the Kirk and obey the discipline thereof."

Finally, as an illustration on a small scale of the harmony between the civil and spiritual powers where their relations, so much contested in the statecraft of the time, were represented by two bodies, such as the Presbytery and Magistrates of Stirling, animated with one spirit:—"At Stirling, the iii. day of September, 1582. The qlk day the bailies of the burgh of Stirling reported to the brethren that they, for contempt and disobedience of Andro Squire to the brethren's ordinance have caused their officers lay hands on him, who had promised to them to obey the brethren, whom they presentit personally to satisfy for his said contempt. The brethren, having diligently weighed his long disobedience and contempt and his refuse to satisfy the ordinance of the Kirk made thereanent, decerned and ordained him to mak public repentance in the Kirk of Stirling the next Thursday that there should happen ane preaching to be there under the pain of excommunication."

The last trace of Robert, Bishop of Glasgow, in the records of the Eldership of Stirling ends with the apprehension of the humble but contumacious Squire, who had manifestly become infected with the spirit of his landlord, and while confessing, probably with truth, that he never ate or drank with him, refused, till compelled, to obey the authors of his excommunication. The final surge of the storm has thrown up this small piece of wreckage, typical in its own way, of the havoc to the national peace and prosperity with which the disputes that circled round Montgomery's case were to become fraught. Five years afterwards in June 1587, Montgomery made fresh signs of submission and the General Assembly prescribed to him a form of repentance which he declined to subscribe, but in the following spring, at the Assembly held in February 1587 (8) at his own supplication, the circumstances of his process were reconsidered and it was found that he might be admitted pastor over a flock where he had given no occasion of slander, provided he was still qualified in life and doctrine to discharge the duties. He was now well advanced in years. The changes wrought by time had told upon him for the worse. Whatever fire and ambition he once possessed had been completely extinguished, and to the broken old man, whose sin had been nothing worse than a surrender to the weakness of ordinary humanity

in the presence of great temptations and who had amply suffered for it, the Manse of Symington must have provided a welcome place of rest.

Authorities.—Register of Presbytery of Stirling (unpublished); Register of Privy Council; Book of the Universal Kirk; Calderwood; Spottiswoode; Row; Keith; Wm. Scot (apologetical narration); Heylin's History of the Presbyterians; Dr George Cook's History of the Church of Scotland; Robertson's History of Scotland and Tytler's History; Dr Hew Scott's Fasti Ecclesiæ Scoticanæ; Wodrow Miscellany; Works of John Knox (Wodrow edition).

The usual monthly meeting of the above Society was held in the Committee Room of the Y.M.C.A. Institute, Allan Park, on Tuesday, 21st March. In the unavoidable absence of the Rev. Mr Goldie, Col. Stirling of Gargunnock was, on the motion of Mr D. B. Morris, called to the chair. The minutes of February meeting having been read and approved of Colonel Stirling introduced Mr Andrew M'Lellan, High School, who submitted "Second Report, with Specimens of the Land and Fresh Water Shells of Stirlingshire." A short paper by Mr D. B. Morris followed, giving an account of "Mammalian Remains found in Peat Moss," at Dunblane. Mr Kidston read "Notes on the Flora of Stirlingshire," worked out in conjunction with Colonel Stirling of Gargunnock. The thanks of the meeting were heartily accorded to Mr M'Lellan, Mr Morris, Colonel Stirling, and Mr Kidston for their papers. Mr Morris exhibited antlers and jaw-bone of red-deer found at Dunblane, and Mr Kidston exhibited a specimen of *Cephalaspis Lyellii* (Agass.), from Westerton Quarry, Bridge of Allan. The quarry shows an interesting section of the strata, the sandstone of the Lower Old Red Sandstone underlying a bed of trap rock. The fossil was found about thirty years ago, and was preserved by the late Rev. Mr Ferguson. His son, Mr John D. Ferguson, Bridge of Allan, has now presented it to the local collection of the Society. The specimen shows the greater part of the shield shaped head plate of the fish, which is very well preserved in the hard sandstone. Beautifully-mounted specimens of the Flora of Stirlingshire, additions to the list already published by the Society, were laid on the table for exhibition by Mr Kidston. A vote of thanks to Col. Stirling for his conduct in the chair concluded the business.

Mammalian Remains Found in Peat Moss at Dunblane.

By David B. Morris.

The authorities at Dunblane recently adopted an improved drainage scheme, and, in the course of their operations, extensive cuttings had to be made into the soil under the streets. These cuttings showed a number of most interesting sections of the strata, particularly at Ramoyle where the gravels and sands of the Kames series were exposed. In Kirk Street, a bed of peat moss was cut into, 5 feet 6 inches in depth at the deepest part, and covered by 2 or 3 feet of surface soil. This bed of peat occupies the eastern portion of the plateau on which the Cathedral stands. It stretches, I am informed, from the foot of the hill at Braeport to the chancel of the Cathedral, which is partly built upon it. It occupies the eastern portion of the burying ground, as well as the area of the roadway and buildings of Kirk Street. The peat moss marks a natural hollow where the plateau adjoins the rising ground, and must have been at one time a shallow sheet of water or a swamp. The tissue of the moss of which the peat is composed is greatly decayed, but the portions now exhibited appear to consist of the genus *Dicranum*. Mosses of this genus usually grow in swampy ground. Mixed with the moss were roots of other plants, and also small pieces of wood, apparently birch and hazel, but in a condition too decayed for preservation. In cutting this peat moss at Kirk Street, the relics now exhibited were found. They were handed to me by Mr John Robertson, Dunblane, who was present at the discovery of several of them, and to whom we are indebted for their preservation. They were found within a distance of several yards. The relics are five in number, and all belong to the Red Deer, *Cervus Elaphus*.

1. This is a broad piece of the top of the antler, of great hardness and strength. It measures 10 inches in length and 2⅝ inches in breadth at the broadest part. Towards the trunk, the antler has been irregularly broken, and at the end it has been artificially cut across. The cut is very clean, even through the hard, outer surface of the horn, and indicates that the section has been made with a good cutting or sawing tool, or that the surface has been ground smooth. Along the edge of the horn, near the broad end, are a number of cut or chopped marks as if the edge had been trimmed

for some purpose. They look as if caused by a series of cuts with a sharp knife in the hand, or with a chisel driven by a hammer. At the pointed extremity of the antler, a small flake has been forcibly broken off, as if it had been struck against a hard object. All along the front surface, a series of fine grooves can be seen irregularly marked in the surface of the horn. These, however, are probably the marks of the conflicts in which the stag engaged with his fellows. The relic seems to have been used as an implement of some sort. Perhaps it is an unfinished tool. As an axe it would be very rude, and it is not sharp enough for a chisel.

2. This is a piece of deer's horn which has been cut across just below a branching node. The cut edge is clean and sharp, 1¾ inch in the longer by 1¼ inch in the shorter diameter. The longer branch springing from the node is 5½ inches long, and has been broken off not very far from the point, judging by the taper of the horn. The end has been roughly broken across, and is formed into two sharpish points with a cleft between. The points are of the outside hard horn. The shorter branch is 3 inches long. It is as thick as the other branch and has been broken shorter. The end is similar in appearance to the other branch having a cleft in the middle. One point has been made and it has been apparently intended to make other two, but they are not completed. The cut of a sharp tool is visible on the horn here. What implement the horn was intended for I cannot tell, but it looks unfinished.

3. This is a small thin piece, being the brow antler broken off a large horn. It is seven inches long, following the curve, and 2¼ inches in greatest girth. It has been scraped and worn artificially, as the outer surface is not the natural surface of the horn. There is a slight cut at the extreme point, as if it had been intended to make a cleft there.

4. This is a large right under-jaw bone, nearly entire, 13 inches in length. It contains a complete set of six teeth. The teeth are not worn, and the whole relic is in good preservation. It is remarkable for its great size. Dr R. H. Traquair, F.R.S., keeper of the Natural History collection of the Museum of Science and Art, Edinburgh, has never seen a specimen of such dimensions, and it greatly exceeds the size of the jaw in modern representatives of the red deer.

5. This is another jaw bone. It has been broken and is not so well preserved. It contains three

teeth, the others having fallen away. It is a left under-jaw bone, and as it corresponds closely with the other, they are probably right and left jaw bones of the same animal.

I understand similar relics have been occasionally found in the bed of peat moss from which these were obtained. The Rev. Mr Davidson, Braeport, Dunblane, has in his possession two of these. They are fragments of deer's horn similar to those now exhibited. Both have been artificially cut across. It is not easy to determine the age of these relics. The peat moss in which they were found is one of the many peat mosses which occur all over Scotland, and which vary in age from immediately post glacial times to the period of written history.

Second Report on Stirlingshire Land and Fresh Water Shells.

By Mr A. M'Lellan, High School.

At the close of the Shell Committee's report for April, 1892, it was stated that the work for the coming season would be two-fold—noting the topographical distribution in our vice-county of the species known to exist in the small area upon which we then reported, and raising the number of recorded species to a figure that might compare favourably with the records for other comital areas. I have now briefly to say how far we have been able during the past year to accomplish this end. To aid us in field-work, we secured as a most useful *vade-mecum*, Rimmer's complete set of Albert-type photographic prints—natural size—of British land and fresh water shells, and availed ourselves of opportunities for examining and reading up certain representative local and national collections.

Topographical distribution.—Weather—a most important factor—was not in our favour. The months of May and June and of August and September were both wet and cold. The streams were full, and the lake shores overflown and marshy. Grass was rank and generally so damp as to make our task most uninviting. Often, too, snell winds blew across the upland moors in which such hunting spots as Lochs Coulter and Laggan are situated. Our diary of events for these months has more to say about weather than about themes dear to a conchologist, and amply supports Colonel Stirling's impression of it. I think he states (see Transac-

tions for February, 1893), that 25½ inches of rain, just twice the average record, fell in the Touch district during the four months to which I have referred. Our experience seemed to be that a large proportion of this excessive rainfall favoured Saturdays. In spite, however, of these persistent obstructions, our topographical work progressed satisfactorily. We were enabled to examine with greater or less care the section of our county extending eastwards from Kippen Firs to Dunmore, and bounded north and south by the Forth and the canals at Camelon and Falkirk. We not only found new habitats for the shells upon which we have already reported, but discovered those of species not yet recorded, and what pleased us most, resorts of seven of the ten previously recorded species whose haunts we had last year sought in vain. This branch of the work is still in its infancy; and repeated visits under altered conditions of date, of hour, and of weather to each locality will be necessary before it can be affirmed of species that they are, as regards our vice-county, either common, or rare, or local, or non-indigenous. I may add that through the kindness of individuals we have been enabled to record species for Arnprior, Buchlyvie, Balfron, and Banton. The following, as far as our examination has gone, may be named as the most widely distributed:—Ancylus fluviatilis, Limnæa peregra, Arion ater, A. Bourguignati, Limax agrestis, Vitrina pellucida, Zonites cellarius, Z. alliarius, Z. nitidulus, Z. crystallinus, Helix nemoralis, H. hispida, H. rotundata, Pupa umbilicata, Clausilia rugosa, Zua lubrica, and Carychium minimum. We have found few habitats, as yet, for Bythinia tentaculata, Planorbis contortus, Sphærium corneum, Pisidium amnicum, Physa hypnorum, Succinea elegans, Helix aculeata, and Bulimus obscurus. Our rarest species are Anodonta cygnea (Banton Reservoir, Kidston), Unio margaritifer (Forth, M'Dougall), Pisidum roseum (Buchlyvie, M'Dougall), Valvata piscinalis (Loch Coulter, Scott), Zonites excavatus (Cumbernauld, Binnie), Helix caperata (Polmont, Evans), Helix arbustorum (Stirling Castle, Lowson).

Shell census.—Of the 141 records for the United Kingdom only 101 (if the Testacellæ be excluded as non-indigenous) have hitherto, as far as we know, been verified for Scotland; and as many of the 40 unrecorded species are either non-indigenous or local, we do not anticipate a large addition to the list of Scottish species. Only 27 of the 34 British

genera have hitherto been recorded for Scotland. We have collected types of 24 of these, and have reason to think that more diligent search will lead to the discovery of habitats of the other three—Dreissena, Amalia, and Acme. During the past eighteen months we have noted 58 of the Scottish species; but as may be deduced from an examination of the returns for the United Kingdom and for Scotland, we have found all the species most commonly diffused, most of those that are considered uncommon, and several of what may not unfairly be called the rarer species. A glance at the Edinburgh and the Fife lists has given us the names of twenty-five species, which may yet be added to our records for Stirlingshire. The result may be thus stated:—

Collected in 1891-2,.....	38
Collected in 1892-3,.....	20
Previous records not yet noted by us,	3
Total number of species,.....	61

The records which have not yet been verified, either by the Committee or by other members of the Society, are Helix caperata, Zonites excavatus, and Valvata piscinalis. The twenty-five species for which we would be pleased to verify habitats for our vice-county are Sphærium lacustre, Pisidium cinereum, P. nitidum, Anodonta anatina, Dreissena polymorpha, Valvata cristata, Planorbis nautileus, P. parvus, P. carinatus, P. marginatus, Limnæa auricularia, Ancylus lacustris, Amalia carinata, A. gagates, Arion minimus, Succinea putris, Zonites Draparnaldi, Helix sericea, H. fusca, Pupa ringens, P. marginata, Vertigo pygmœa, V. minutissima, V. substriata, Zua tridens. To the younger members who may wish to take up the subject, I can recommend Dr Williams' excellent shilling treatise on "Land and Freshwater Shells" in the *Young Collector Series*. To those who may desire to take a wider view, and who are acquainted with histological methods of study, I may mention Professor Ray Lankester's contribution, "Mollusca," to the latest edition of the Encyclopædia Britannica.

I append a list of the sixty-one species noted for Stirlingshire. The numbers refer to the list for the United Kingdom.

Fresh Water.—1 Sphærium corneum, 5 Pisidium amnicum, 6 P. fontinale, 7 P. pulchellum, 8 P. pusillum, 11 P. roseum, 14 Unio margaritifer, 15 Anodonta cygnea, 21 Bythinia tentaculata, 25 Valvata piscinalis, 30 Planorbis albus, 32 P. spirorbis, 37 P. contortus, 39 Physa hypnorum, 40

Physa fontinalis, 44 Limnæa peregra, 47 L. palustris, 48 L. truncatula, 50 Ancylus fluviatilis.

Land.—52 Arion ater, 53 A. hortensis, 54 A. subfuscus, 55 A. Bourguignati, 60 Limax flavus, 61 L. agrestis, 62 L. lævis, 64 L. arborum, 65 L. maximus, 66 L. cinereo-niger, 70 Succinea elegans, 75 Vitrina pellucida, 77 Zonites cellarius, 78 Z. alliarius, 80 Z. nitidulus, 81 Z. purus, 82 Z. radiatulus, 83 Z. nitidus, 84 Z. excavatus, 85 Z. crystallinus, 86 Z. fulvus, 87 Helix lamellata, 88 H. aculeata, 90 H. aspersa, 91 H. nemoralis, 92 H. hortensis, 93 H. arbustorum, 97 H. concinna, 98 H. hispida, 104 H. caperata, 106 H. rotundata, 107 H. rupestris, 108 H. pygmæa, 109 H. pulchella, 114 Bulimus obscurus, 118 Pupa umbilicata, 129 Vertigo edentula, 131 Balia perversa, 132 Clausilia rugosa, 137 Zua lubrica, 139 Carychium minimum, 96 Helix rufescens.

Notes on the Flora of Stirlingshire.

(Third Paper.)

By Col. Stirling of Gargunnock, and Robert Kidston, F.R.S.E., F.G.S.

In laying before the Society our third report on the Flora of Stirlingshire, we are able to record 39 species and 5 varieties which were not included in the previous papers, but it is desirable before giving the list of these additions to make a few notes on some of the new records as well as on some of those previously recorded. In our second report we recorded *Typha latifolia* for district I. The specimens varied somewhat from the typical form, though they were thought to be referable to that species. To settle the point, the locality was again visited last year, and additional specimens were collected, which were submitted to Mr Bennett, Croydon, who says, "Your plant is rather a puzzle, but I believe must go to *Typha angustifolia*. When in flower and fresh the stigmas easily distinguish them, but dried it is not so easy." The record of *Typha latifolia* must therefore await further confirmation. In last year's paper, though mentioned in the notes, *Potamogeton undulatus* was omitted from the general list, so it has been included in the list given this year.

Of the plants of which we saw specimens from the county for the first time last season, the following are introductions, and do not form any part of the indigenous flora:—*Camelina sativa*, Kranta,

var. fœtida, Fr.; *Euonymus europæus*, L.; *Melilotus officinalis*, Desv.; *Fragaria elatior*, Ehrh.; *Saxifraga umbrosa*, *L.*; *Saxifraga umbrosa*, L., *var. punctata* Don.; *Dipsacus sylvestris*, L.; *Matricaria Chamomilla*, L.; *Centaurea Scabiosa*, L.; *Polimonium cæruleum*, L. *Anchusa officinalis*, L.; *Cuscuta Epilinum*, Weihe.; *Mentha viridis*, L.; *Mentha Piperita*, Huds.; *Acorus Calamus*, L.; *Bromus madritensis*, L.

Of these, *Euonymus europæus* is evidently planted; *Fragaria elatior* (Hautboy Strawberry), is probably an escape from cultivation; *Saxifraga umbrosa*, and *var. punctata*, *Mentha viridis*, *Mentha Piperita* are garden escapes. *Centaurea Scabiosa*, though a Scotch plant, was evidently introduced in the locality at which we collected our specimens. *Dipsacus sylvestris* was collected by Mr Stirling of Garden, on the side of the Forth and Clyde Railway, near Port of Monteith Station, which here was an introduction; the plant is doubtfully a native in Scotland. *Cuscuta Epilinum* is now probably extinct in the county. Formerly, when flax was grown, the plant was common in those districts, but since flax has ceased to be cultivated in Stirlingshire, the *Cuscuta Epilinum*, which is a parasite on it, appears to have quite disappeared. Strictly speaking, it should not be retained in the list of county plants, and our record is from an old specimen in the late Professor Hennedy's Herbarium, now in the Andersonian College, Glasgow. Occasionally *Linum usitatissimum* is found, and, of course, *Cuscuta Epilinum* may be found on it; but at the best, both are introductions. *Sagittaria sagittifolia* and *Apera Spica-venti* may be natives, but at present we are not in a position to settle the question. In regard to *Apera Spica-venti* it was recorded from Fife by Parnell, in his "Grasses of Scotland," in 1842. There seems no reason why these two plants should not be natives, but their claim as such in Stirlingshire requires to be more fully investigated.

The following new records, to us (though some of them have been previously noted by others) we believe, to be native:—*Ranunculus Lenormandi*, F. Schultz; *Subularia aquatica*, L.; *Cerastium semidecandrum*, L.; *Sagina ciliata*, Fr.; *Genista anglica*, L.; *Saxifraga granulata*, L.; *Cicuta virosa*, L.; *Sium latifolium*, L.; *Cnicus arvensis*, Hoffm., *var. vestitus*; *Hieracium pallidum*, Biv., *var. Schmidtii*, Tausch.; *Hieracium rubicundum*, Hanbury; *Hieracium duriceps*, Hanbury; *Hieracium sparsifolium*, Lindb.; *Myosotis collina*, Hoffm.; *Veronica polita*, Fr.;

Origanum vulgare, L.: *Neottia Nidus-avis*, Rich.; *Convallaria majalis*, L.; *Juncus Gerardi*, Lois.; *Potamogeton pusillus*, L., *var. Berchtoldii*, Fieber.; *Sesleria cærulea*, Scop.; *Bromus asper*, Murr., *var. serotinus*, Benek.; *Agropyron caninum*, Beauv.; *Equisetum pratense*, Ehrh.

Genista anglica we have not found ourselves, and our record is taken from a specimen in the late Professor Hennedy's Herbarium. We have not yet had an opportunity of visiting the locality at which his specimen was got. *Neottia Nidus-avis.*—This we also have not met with, and our record is from a specimen collected by the late Dr Arnott, which is now in Professor Hennedy's Herbarium. We may say, however, that quite recently we are informed, on good authority, it had been found more recently near Denny, though no specimen as yet has been submitted to us from that locality. *Convallaria majalis* (Lily of the Valley.)—It may not be generally known that this much appreciated plant for garden cultivation is a native of Scotland, and we believe it is native in the locality where we found it, a view in which both Mr A. Bennett and Dr Buchanan White concur. It also occurs native in Perthshire. Our record for *Sesleria cærulea* is from a specimen in Professor Hennedy's Herbarium, from Ben Lomond. We have not yet met with it there, though Hennedy in his Clydesdale Flora says it is plentiful on Ben Lomond. For the records of *Sagittaria sagittifolia*, *Sium latifolium*, and *Camelina sativa var. fœtida*, we are indebted to Mr Johnston Shearer. A Stirlingshire specimen of the last mentioned plant is also in Hennedy's Herbarium. We have also seen a specimen of *Sagittaria sagittifolia* for Stirlingshire, collected by Messrs J. & R. Wilkie, which was communicated to us by Mr Johnston Shearer. To Professor King, Andersonian College, Glasgow, we are much indebted for the privilege of going over the Herbarium of the late Professor Hennedy, in whose collection, in addition to those records already mentioned from this source, we saw the Stirlingshire specimen of *Acorus Calamus*. In addition to the specimen of *Dipsacus sylvestris* communicated to us by Mr Stirling of Garden, we are furthur indebted to him for a new locality for *Ophioglossum vulgatum*. Mr L. Watt, Clydebank, in addition to other assistance, has given us Stirlingshire specimens of *Cicuta virosa* and *Subularia aquatica*. *Hieracium rubicundum* and *Hieracium sparsifolium*. The example from which we record *Polemonium cæruleum*, is from near the Distillery,

Gargunnock, and was collected by the late Mr Robt. Geddes, Bridge of Allan. Mr D. B. Morris has added new district records for *Trifolium arvense* and *Lychnis Githago*. In addition to the British plants or those usually included in works on British Botany, the following foreign introductions have been found growing on the waste ground beside the Docks, Grangemouth, and have evidently been introduced from ballast discharged on this spot:—*Sisymbrium pannonicum*, *Saponaria Vaccaria*, *Potentilla Norwegica*, *Achillea nobilis*, *Beta vulgaris*. For assistance in naming or confirming our identifications, we are much indebted to Messrs J. & A. Groves, London; to Mr F. J. Hanbury, for going over the *Hieracia*; to Mr A. Fryer, Chatteris, for revising our *Potamogetons*, and especially to Mr A. Bennett, for assistance in many cases of doubt, and also for assistance with the *Potamogetons*. Our second report contained a list of 712 species and 43 varieties, to these there must now be added 39 species and 5 varieties, making in all 751 species and 48 varieties, of all of which we have seen Stirlingshire specimens.

ADDITIONAL COUNTY AND DISTRICT RECORDS FOR STIRLINGSHIRE.—1892.

*(Those marked * are not included in our previous lists.)*

No.	Name	Districts. 1	2	3	4
* 21	Ranunculus Lenormandi, F. Shultz.	x	-	-	-
118	Sisymbrium Alliaria Scop.	-	x	-	-
* 121	Camelina sativa, Krantz, *var.* fœtida, Fr.	x	-	-	-
* 122	Suhularia aquatica, L.	-	-	x	-
209	Lychnis Githago, Lam.	-	x	-	-
* 214	Cerastium semidecandrum, L.	x	-	-	-
* 241	Sagina ciliata, Fr.	x	-	-	-
* 315	Euonymus Europæus, L.	x	-	-	-
* 320	Genista anglica, L.	x	-	-	-
* 340	Melilotus officinalis, Desr. (M. arvensis W.)	-	x	-	-
350	Trifolium arvense, L.	x	-	-	-
413	Spiræa salicifolia, L.	x	-	-	-
* 482	Fragaria elatior, Ehrh.	x	-	-	-
525	Pyrus Aria, Sm.	-	-	x	-
* 541	Saxifraga umbrosa, L.	x	-	-	-
* 541*b*	do. do. *var.* punctata Don.	x	-	-	-
* 547	do. granulata, L.	x	-	-	-
* 627	Cicuta virosa, L.	x	-	-	-
* 637	Sium latifolium, L.	x	-	-	-
643	Scandex Pecten-Veneris, L.	x	-	-	-
* 720	Dipsacus sylvestris, E.	-	x	-	-

* 769	Matricaria Chamomilla, L.	-	x	-	-
706	Arctium minus, Schenk.	-	x	-	-
* 809	Cirsus arvensis, Hoffm., var. vestitus.	x	-	-	-
* 817	Centaurea Scabiosa, L.	-	x	-	-
* 853b	Hieracium pallidum, Biv., var. Schmidtii, Tausch.	x	-	-	-
*	do. rubicundum, F., J. Hanbury.	x	-	-	-
*	do. duriceps, F., J. Hanbury.	x	-	-	-
*	do. sparsifolium, Lindb.	x	-	-	-
* 859e	murorum, L., var. microcladium, Dahlst.	x	-	-	-
905	Campanula rotundifolia, L.	-	x	-	-
949	Lysimachia vulgaris, L.	x	-	-	-
* 981	Polemonium cæruleum, L.	-	x	-	-
* 988	Anchusa officinalis, L.	-	x	-	-
*1000	Myosotis collina, Hoffm.	x	-	-	-
1010	Convolvulus arvensis, L.	-	x	-	-
*1011	Cuscuta Epilinum, Weihe.	x	-	-	-
1035	Linaria vulgaris, Mil.	-	x	-	-
*1049	Veronica polita, Fr.	x	-	-	-
*1105	Mentha viridis, L.	x	-	-	-
*1106	do Piperita, Huds.	x	-	-	-
*1117	Origanum vulgare, L.	x	-	-	-
1296	Salix aurita, L.	-	-	x	-
*1329	Neottia Nidus-avis, Rich.	x	-	-	-
*1395	Convallaria majalis, L.	x	-	-	-
*1429	Juncus Gerardi, Lois.	-	x	-	-
*1464	Acorus Calamus, L.	x	-	-	-
*1473	Sagittaria sagittifolia, L.	x	-	-	-
*	Potamogeton undulatus, Wolfg.	x	-	-	-
*1502	do. pusillus, var. Berchtoldii Fieber.	x	-	-	-
*1663	Apera Spica-venti, Beauv.	-	x	-	-
*1688	Sesleria cærulea, Scop.	-	-	-	x
1731	Festuca arundinacea, Schreb.	x	-	-	-
*1733a	Bromus asper, Murr, var. serotinus, Benek.	x	-	-	-
*1735	Bromus madritensis, L.	-	x	-	-
*1749	Agropyron caninum, Beauv.	x	-	-	-
*1813	Equisetum pratense, Ehrh.	x	-	-	-

The last meeting of the session—1892-93—of the above Society, was held in the hall of the Y.M.C.A. Institute, Allan Park, on Tuesday, April 18. The Rev. Mr Goldie presided, and there was a large attendance of members of the Society and of the general public. As it was an open meeting the usual preliminaries, reading of minutes, &c., were dispensed with. The Chairman in appropriate terms introduced Mr A. F. Hutchison, the lecturer of the evening, who read a most interesting and exhaustive paper on "The Standing Stones and other Rude Monuments of the Stirling District, with lime-light illustrations," from photographs prepared by Mr Robert Kidston. The list of monoliths includes:—Stones at Randolphfield, which Mr Hutchison considers to be of much older date than the skirmish between Randolph and Clifford on the eve of Bannockburn, which they are supposed to commemorate; the "Stones" in Airthrey and in Alloa Parks, and at Clackmannan; the "Gathering Stone" and the so-called "Wallace Stones" on Sheriffmuir; the Harperstone Circles; stones and remains of stone circles at Greenloaning, Blackford, and Auchterarder, including the "Camp' Stone and the "Gordon" Stone; the Glenhead, Boreland Hill, and Malling Stones; the Aberfoyle Circles; the Fintry Stones, including those at Machar, Knochcraich, and Broadgates; the "Auld Wives' Lift" on Craigmaddie Moor, the Arnprior and Herbertshire Stones, and the "Druid's Stone" at Duchlage.

At the close, the Chairman said he was sure he spoke the feeling of the meeting, when he characterised Mr Hutchison's lecture as a most valuable addition to their archæological knowledge. It was an admirable lecture, admirably illustrated, and one hardly knew whether the illustrations or the literature was the better. Col. Stirling, in proposing a vote of thanks to Mr Hutchison and Mr Kidston, spoke in similar laudatory terms. In reply, Mr Hutchison said his descriptions would have been nothing without the beautiful photographs so carefully prepared by Mr Kidston. It had given him great pleasure to wander through the country with such a companion, so full of information on botanical, geological, and archæological subjects. Some stones still remained to be described, but these might form the subject of a paper at some future time. A vote of thanks to Mr Goldie for his conduct in the chair, moved by Mr D. B. Morris, concluded the business.

THE STANDING STONES OF THE DISTRICT.

BY A. F. HUTCHISON, M.A., RECTOR OF THE HIGH SCHOOL, STIRLING.

RANDOLPHFIELD STONES.

Before describing in detail the Standing Stones of the district—of the greater number of which Mr Kidston has prepared photographs to be shown by the lime-light—it may be proper to make a few remarks of a somewhat general character.

DISTRIBUTION.

Mr Kidston has kindly prepared a map of the district showing the geographical distribution of these ancient monuments. A very cursory examination of it shows that they follow very much the hill-contour of the country. The greater number of them keep along the hill-slopes: the others are scattered over minor rising grounds, often surrounded by higher summits. It is well, however, to be cautious in drawing an inference from this with too great certainty. The stones that still remain are in positions which have afforded the best chances of preservation. The lower grounds have been under cultivation for many centuries, and if Standing Stones ever did, in any numbers, exist on them, they are not unlikely to have been destroyed or removed as obstacles to the cultivation of the soil. Very few of those to be described are situated on arable ground, and one of these—the Harperstone Circle—has been irretrievably ruined by the operations of the farmer. The very small fragments of it which remain would probably by this time have entirely disappeared, had not the field been allowed to go out of cultivation. The majority are disbuted over hillsides and uncultivated moorlands.

ORIENTATION.

All the stones examined show a sort of Orientation. Wherever there was anything like an alignment, or where there was any indication of a diametrical direction—as in the Circle at Aberfoyle—and, in the case of single stones, where any peculiarity of setting gave them the appearance of pointing to a particular quarter, the direction has been carefully taken with an azimuth compass, with the result that all have been found to point nearly in the same direction. That direction is North of East. They all look as nearly as possible to the quarter of sun-rise at the summer solstice. Such a general uniformity of direction can scarcely be

accidental. It seems to point to their erection by a race of nature-worshippers, who set up their rude altars or memorial stones to catch the first beams of the rising sun. That the direction is not invariably exact to a point or two of the compass seems rather a confirmation of this idea than otherwise. There were no magnetic compasses in those days. The worshippers of the sun-god would have to watch for his appearance. And according to the nature of the bounding horizon—whether sea, or plain, or hill—the point from which his first rays struck the sacred place would be a little more to the North or a little nearer the East.

BURIALS.

There can be no doubt that many—I should say most—of these stones mark places of interment of the unknown great of early times. Burial and worship may have been conjoined at the same place. The practice of burying in sacred places has come down through the ages to the present day. But even when stones were set up simply to mark interment, it is natural to suppose that they would be set to face the sacred quarter. As a matter of fact, cists that have been dug up in stone circles and beside Standing Stones have been found generally—so far as my own knowledge goes, invariably—lying in this same north-easterly direction. The only stone in the list I am about to submit that varies from this general direction is the incised stone in Alloa Park, which faces east and west. This, however, does not affect the statement. The Alloa stone bears marks of an early Christian origin, and so is oriented in conformity with Christian custom, while the earlier Pagan monuments face the rising sun.

COMMEMORATION STONES.

Some stones are said to have been erected to commemorate battles and other historical events. It was no doubt a widely prevalent custom to set up memorial stones of this kind, although I do not know to what extent it ever prevailed in this country. In our own neighbourhood there are at least two sets of stones usually said to be connected with battle sites. This identification, in the one case (Randolphfield) rests entirely on tradition, and of the existence of that tradition we have no written evidence that goes back much beyond a hundred years. In the other case (Airthrey) it has no other

foundation than a guess of the historian of Stirlingshire.

BOUNDARY STONES.

Some stones undoubtedly have been erected to mark the boundaries of properties or the limits of sanctuary rights. These—especially the latter kind—would acquire a character of sanctity; but they are, of course, of comparatively recent origin.

In regard to the periods of erection of the rude stone monuments, the general agreements among experts may be summarised as follows. The unhewn and uninscribed stones are assigned to Pagan times. Stones incised with rude crosses and symbols belong to the early Christian ages. The more elaborately sculptured stones, of course, are of a later period. Stone Circles and Dolmens have been found to contain burials of the Bronze Age, with both cremated and unburned remains. Triangular and rectangular groups of Standing Stones are held to belong to the Iron Age.

CUP-MARKS.

The cup-marks are still a puzzle to archæologists. It was once supposed that they might have been intended for containing liquid-milk, or fat, or even blood—for the gods. As they are shallow—and their contents therefore would be soon exhaled or dried up by the sun, and so apparently be accepted by the god, the idea was thought not to be without probability. But, in the case of Standing Stones at least, the cups are found quite as often on the side as on the top of the stone, and, in other cases, more often than not, the surface on which they appear is sloping and not flat. By far the most numerous and elaborate cup-markings are on rock-surfaces or great boulders. It is on these that the encircling grooves, the radial ducts, the connecting lines, the spirals and other characteristic markings appear. The most that can be said of their meaning as yet is, that they appear to belong to some still undeciphered religious symbolism of early man. I should not be surprised if it should be found that they have some reference to the appearance of the heavens and possibly to the movements of the celestial bodies. But, that is a mere conjecture of my own, which may prove to be quite as unfounded as other theories.

GEOLOGY.

The geological character of the Standing Stones is varied. Some are pieces of the local rock, but a much larger number are of a geological formation, different from that of the district. On Sheriffmuir, for instance, we find Standing Stones of a kind of a rock which is not found *in situ* nearer than the hills of Balquhidder. It is not necessary, however, to suppose that great blocks of stone like these were quarried and brought from a distance. When a stone differs from the rock of the district it was no doubt brought thither and dropped by the glacial flow. The men who set up the Standing Stones looked for those most suitable to their purpose. If slabs of the native rock were handy, they would set them up. If not, over every hill side were strewn boulders brought down by ice from the higher Grampian summits, and from these they could select those that suited their purpose. Stones of columnar shape were specially suitable. We need not therefore be surprised to find that the dolerite pillars of the Castle Rock and the Abbey Craig have furnished the Standing Stones of the immediate neighbourhood. There is no violence in the supposition that these may have been carried from their native positions to the sites at Randolphfield and Airthrey Park.

In the grounds of Randolphfield, in front of the house, are two stones standing in a line from S.W. to N.E.—the line of direction making an angle of 235° with the magnetic north. The south-west stone stands 4 ft. above ground. The portion underground measures 2 ft. 5 in.: so that in all it measures 6 ft. 5 in. Its girth is 6 ft. 6 in. It is four sided in shape—nearly square—three of the faces measuring each 21 inches, and the fourth 15 inches. The north-east stone is smaller, and less regular in form. Its height above ground is 3 ft. 6 in., and its girth 4 ft. 6 in. Both stones are pillars of dolerite, of the same material as the pillar stones of the Castle rock, from which place they have apparently been brought. The larger stone shows some marks on it, which have been supposed to be artificial. They are, however, merely the natural joints characteristic of these blocks, such as may be seen on their fellows at the Back Walk. The local tradition as to the origin and meaning of these stones is well-known. It is thus stated by Nimmo in his History of Stirlingshire, p. 84 (first edition, 1777):—"Two stones stand to this day in the field near

Stirling, where Randolph, Earl of Murray, and Lord Clifford, the English general, had a sharp rencounter, the evening before the great battle of Bannockburn." Again, p. 193 :—"To perpetuate the memory of this victory" (the skirmish above referred to) "two stones were reared up in that field and are still to be seen there, They stand in a spot *which has been lately enclosed for a garden*, at the north end of the village of Newhouse, about a quarter of a mile from the south port of Stirling." The Old Statistical Account of St Ninians (Rev. Mr Sheriff, 1796), makes the same statement, pp. 406-8 :—"In a garden at Newhouse, two large stones still standing were erected in memory of the battle fought on the evening before the battle of Bannockburn, between Randolph and Clifford. . . . *The place has lately received the name of Randolphfield.*" The New Statistical Account tells the same story more concisely. The statists evidently follow Nimmo. I can find no earlier mention of these stones. Barbour, the principal ancient authority for the battle of Bannockburn, is silent regarding them. Nimmo's appears to be the traditional account of the meaning of the stones, although it seems that the name of Randolphfield dates no further back than about or somewhat later than the period at which he wrote. In fact, both names—Randolphfield and Clifford Hall—are obviously artificial. They did not arise spontaneously out of the popular recollection, but were stuck on at the end of last century. For all that, they may serve to preserve to us the locality which tradition has identified with the skirmish, and tradition may well enough be correct. As to the stones themselves, it is not impossible that they may be much older than the period of Bannockburn. The direction in which they stand to each other seems to indicate an aligument of the ancient type, and they stand upon just such a summit of rising ground as the old groups of standing stones usually occupy.

AIRTHREY PARK STONES.

Two stones stand in the grounds of Airthrey Castle. The more westerly one is near the boundary wall at Blalowan. The other is about a quarter of a mile further east, near the stone which has been put up to mark the meeting place of the counties. The west stone stands 9 ft. 4 in. in height above ground, and has a basal circumference of 9 ft. 2½ in. Looked at from the north it has a rudely cruciform shape. This striking appearance, however, is not

due to art. It is quite natural. The east stone—the more massive of the two—is 9 ft. 1 in. in height. Its greatest breadth is 4 ft. 10 in., and its circumference 14 feet. Both are dolerite columns, similar to the blocks of the Abbey Craig. No tradition regarding the origin of these stones exists, but Nimmo makes the following suggestion (History of Stirling, 1st edition, sec. v., p.p. 83 and 84): "Near the Parish Church of Logie, two miles north from the town of Stirling, are *several* large stones standing erect. Of what event these stones are monuments can not with certainty be determined. In the ninth century, Kenneth II. assembled the Scottish army in the neighbourhood of Stirling, in order to avenge the death of Alpin his father, taken prisoner and murdered by the Picts. Before they had time to march from the place of rendezvous they were attacked by the Picts, aided by some auxiliaries from England; the combat was fierce and bloody; but the victory at last fell to Kenneth, who pursued the flying enemy with great slaughter, and drove many of them into the Forth (Boethius, lib. 10). As the Castle and town of Stirling were at that date in the hands of the Picts, the rendezvous of Kenneth's army and the battle must have been on the north side of the river; and as every circumstance of that action leads us to conclude that it happened near the spot where these stones stand, we are strongly inclined to consider them as monuments of it. The conjecture, too, is further confirmed from a tract of ground in the neighbourhood which, from time immemorial, hath gone by the name of Cambuskenneth, that is, the field or Creek of Kenneth, upon which the noble monastery of the same name stood." The new Statistical Account (published 1845) makes the cautious statement that the stones are "intended probably to commemorate some battle or event long since forgotten." This account, which bears evidence of personal and careful examination, gives the measurement of the stones, and makes them *two* as against Nimmo's *several*. It is, of course, quite possible that one or more stones had disappeared in the course of the seventy years that elapsed between the two accounts, but it is more probable that Nimmo's statement is merely a loose one. Forty years later Nimmo's conjecture has hardened—in the hands of the bookmakers—into a *popular belief*:—"Two standing stones are in the park (Airthrey) without inscription, emblem, or any historical identification, yet popularly believed to be commemorative of the

total defeat of the Picts by the Scots in 839" (Ordnance Gazetteer, 1885).

ALLOA PARK INCISED STONE.

This stone is situated in a field on the south side of the road from Alloa to Clackmannan, about half a mile east from Alloa, and not very far from the east lodge of Alloa Park. It stands, facing as nearly as possible, due east and west (285° magnetic), on the crest of a long and not very high ridge. The highest point of the ridge has been immediately to the west of the present position of the stone, which looks as if it had been moved from its original site. Round the base it is built in with stones, one of which, on the west side, bears the date 1305, evidently recently cut, perhaps when the stone was interfered with. The stone is a hard sandstone, it stands 8 feet in height above ground, is 2 ft. 6 in. in width near the base, and 2 ft. 1 in. at top, and from 7 to 9 in. thick. On either side is an incised cross. That on the eastern side is 6 ft. 5 in. in height; the lower limb being 52 inches long, the centre 10 inches, and the upper limb 16 inches. The arms are each a foot long, and the centre is 10 in. across. The whole cross is thus 6 ft. 5 in. high by 2 ft. 10 in. across. At the intersection of the arms with the body of the cross are four circular cup-like hollows. The cross on the west side is placed about 15 in. lower on the stone than that on the east side, and is more deeply incised. Either the lines have originally been cut deeper, or, as is not unlikely, this side has been less weathered than that exposed to the east. The earlier statistical writer, in his reference to the stone, mentions that he had been told by old people that it once had carvings of men on horseback. He adds that there were no traces of these carvings in his day. Probably they never did exist except in the imagination of the "old people." He mentions, however, that when the adjacent farm was being enclosed twenty years before (about 1770) a ditch was made close to the stone, when many human bones were discovered. Another and still more interesting discovery was made in 1829. This is narrated in Dr John Stuart's *Sculptured Stones of Scotland* (appendix to preface of second volume). "A very interesting example," he says, "of burial of what seems a transition character was found near to the town of Alloa. About half a mile east from it, upon the ridge of a swelling ground immediately adjoining the alluvial banks of the river Forth, and

with the river in view, stands a stone pillar, having a cross of a very primitive type cut on either face. An examination of the site in the year 1829 led to the discovery of many human bones, much decayed, close to the stone; and at about 9 feet north of its base, of a cist 3 feet in length, formed of sandstone flags, which also contained human bones, much decayed. The cist was covered with a flag, at each end of which, on the inside, was incised a small cross of the simplest form, but evidently cut with care." The inference he draws is that the cist represents an early Christian interment, of the period when the Pagan custom of doubling up the body in a short cist had not yet disappeared. Dr P. Miller, who investigated the stone and read a paper on the subject some years ago to the Society of Antiquaries of Scotland, makes the statement—from his personal knowledge of the fact—that the stone actually was taken down and re-set in the year 1829. He makes no allusion, however, to the date at the base, 1305. His measurements agree very nearly with those I obtained. He makes the height 8 ft. 3 in., breadth 2 ft. 7½ in., and thickness about 9 inches. "Taking Dr Stuart's views as a foundation, that the stone cist with its cover, with the two incised crosses on its under side, and the Pictish cross within a few feet of the cist, mark the last resting-place of some eminent or illustrious personage at the time that the Pagan form of burial had passed or was passing away, and another mode more in harmony with the new gospel of peace was supplanting it," Dr Miller arrives at the conclusion, which he supports by an investigation of the place-names in the immediate neighbourhood, that "this standing-stone marks the spot where was buried in Pictish times the remains of some person known as *Brath*, *Breidhi*, or *Brude*."

CLACKMANNAN STONE.

The famous stone at Clackmannan, which is supposed to give name to the place—*Clackmanach* (spelling in old charters, Clackmaneck), "The Monks' Stone"—is not properly a standing stone. It now occupies the summit of a tall natural pillar of dolerite brought from the Abbey Craig. It was placed there in 1833 by Mr Bruce of Kennet, father of the present Lord Balfour of Burleigh, and the Rev. Mr Fleming (afterwards Professor Fleming of the New College Edinburgh), at that time minister of the parish of Clackmannan. Previously, and from time immemorial, it lay on the ground beside

the old jail and Court-house, near the Town Cross. The ancient stone, like the pillar which now supports it, is of dolerite. It is over 3 feet in length, 2 feet bread, and about the same in thickness. The two pieces of which it consists are clasped together with iron. This stone was associated with some sort of religious rites in Pagan times. The character of sanctity thus attaching to it would be utilised—as was frequently the case in like circumstances—by the monks for purposes of worship. Before the erection of a Court-house, the Sheriff—as is learned from an old Act of Parliament—used to hold his courts in the open air at the Cross, and it is a reasonable conjecture that prior to the erection of the Cross, courts were held and binding bargains made at this stone, whose tradition of sanctity had come down from pre-historic times.

[For the information in this note regarding the Clackmannan stone, I am indebted to the paper of Dr Miller already referred to.]

THE GATHERING STONE ON THE FIELD OF SHERIFFMOOR.

This Battle Stone (as it is locally called) is a block of fine Highland grit, travelled possibly from Balquhidder. In 1840 it was enclosed by an iron grating, which bears the following inscription :—" The Gathering Stone of the Highland army on the day of the memorable battle of Sheriffmuir, fought in November, 1715. This grating has been erected to preserve the stone by John Stirling, Esq. of Kippendavie, Principal Heritor in the parish of Dunblane." I have been told that this battle stone used formerly to be known as the Beltane Stane. If that is the case, it has probably a much older interest than the battle of Sheriffmoor. It certainly has the appearance, so far as it can now be seen, of an overthrown standing stone.

THE WALLACE STONES

On the east side of the Sheriffmoor road stands what is known as the Wallace Stone. Although only one great stone is now standing, five others are to be found at intervals prostrate amid the heath. Several fragments of the same material (dolerite) as that of the most of the stones is scattered about, especially towards the north-east end of the line. One small stone, which stands by itself at a considerable dis- from the others, close to the road, a little distance below the hotel, makes a line with the great standing stone of 260°. This stone is altogether different in size and appearance from the others. It does not

seem to belong to the alignment, but may, perhaps, have been set up as a boundary stone. It measures 2 ft. 9 in. above ground, and is 9 ft. in circumference at the base. The other six seem to have formed a series running in a direction south-west to north-east, 253°. The first prostrate stone in this line is 7 feet in length, 8 feet in circumference at the base or thicker end, and 6 feet at the top. In shape it roughly resembles a square pyramid. On the exposed side—which, when the stone was erect, would be the south-east—appear over 20 cup-marks, of from 1½ inches to 2 inches in diameter. About 75 yards distant, and in the same line (253°) with the standing stone, lies a roughly rectangular stone of dolerite, not so shapely as the first one, measuring 6 ft. 6 in. in length, and about 10 feet in circumference. The next in the series is a flat stone 5 ft. 6 in. in length, and 4 feet 6 inch broad. It is sunk in the ground, so that the peripheral measurement could not be ascertained. It is slightly out of line with the others. But, near it, and in more exact line is a small stone, 4 feet in length. These may be fragments of a single original stone. The interval between this and the great standing stone is about 150 yards, which gives rise to the suspicion that a stone is amissing in the series. This great stone, the only one now erect, and specially denominated the Wallace Stone, stands 6 feet above the ground, and measures 14 feet in circumference. It is four-sided—the faces measuring respectively, west, 3 ft. 6 in.; north, 2 feet 10 inch; east, 2 feet 8 in.; and south, 5 feet. Beyond this, still in the same line, and at the usual distance of about 75 yards, lies another great stone—a sort of flattened pyramid in shape, 10 feet in length, and from 16 to 18 feet in girth. In a paper read to this Association about three years ago, I described these stones in a general way, and discussed the question of the name by which they are now known. I do not go over that ground again. The incident in the life of Wallace, which connects that hero with the Sheriffmoor stones, will be found narrated by Blind Harry in book v., lines 284-301.

STONE AT WHITTIESTON—(MACGREGOR STONE.)

Almost straight north from the Wallace Stones, on the lower northern slope of the Ochils, stands the Whittieston Stone. It is in a field on the south side of the road from Dunblane to Greenloaning and just in front of the farm-house of Upper Whittieston. A tall slab of Highland grit (fine micaceous),

it measures 9ft. 4 inches at its greatest (south-west) and 8ft. 10 inches at its least (north-east) height. In width it is 6ft. 10 inches., and its thickness varies from 1 to 2 feet. On the east side it is marked with one large and seven smaller cups. The direction along its length is 225°. This is an interesting stone, evidently of high antiquity. I have not been able to ascertain whether any interment has ever been found near. Its only legend is of quite recent date. In the district the stone is known as the Macgregor Stone, and the tradition accounting for the name is to the effect that here a countryman was sacrificed by the followers of Rob Roy, when forming for the engagement on Sheriffmuir, in order to satisfy the ancient highland superstition that first-blood was an infallible omen of success. As Sir Walter Scott phrases it in the Lady of the Lake—

> Who spills the foremost foeman's life
> His party conquers in the strife.

The tradition is precise enough to state that a man of the name of Dawson was seized in the adjoining hamlet of Whiteheadston (for such is the original name) as a whig, and therefore a foeman and proper victim. Dawson, however, suspecting the intention of his captors, vehemently professed himself a supporter of King James and was let off. But another inhabitant of the hamlet, not so acute or not so hypocritical, was immolated at the stone. Such is the story. It occurs to me however, to suggest that the stone may have taken its present name simply enough from the Macgregors of Balhaldies on whose lands it stood. Notwithstanding, it is of much earlier date than the Macgregors of Balhaldie or any other sept of the Children of the Mist.

GREENLOANING INSCRIBED STONE.

Keeping eastward along the Ochil slope for about a couple of miles, we come to the standing stone at Greenloaning, which I formerly described with measurements. I have nothing to add to what I then said regarding this stone. It is mentioned again because Mr Kidston has made some photographs which show the stone and its noteworthy surroundings. The inscription still awaits decipherment.

HARPERSTONE CIRCLE.

About two miles south of Greenloaning, up the northern face of the Ochils, 900 feet above sea level, lies the farm-house of Harperstone. Here, as formerly stated, I imagined I had found the ruins of

an ancient stone circle. A later visit along with Mr Kidston has confirmed the impression, and I now give the dimensions of the circle, so far as we could make them out in the excessively ruinous condition in which it now is. The Harper Stone lies a little north-east of the farm-house. It is 9 feet long by 6 feet across on the top, is 3 feet thick, and measures 26 feet round. This appears to have been a centre stone, and a surrounding circle is traceable more or less distinctly—more so to the west and north, less so to the east and south. The radius of the circle is about 15 yards, and a similar distance separates each of the larger stones yet traceable in the circle. The ground beside the great central stone appears to have been excavated. This excavation is on the north-east side of the stone, just where an interment, if there was one might be expected to be found. This supposition is confirmed by an article in the *Stirling Journal* of May 6th, 1830, to which Mrs Hogg has drawn my attention. I think the whole article refers to this circle, but the localisation is so loose as to render the identification somewhat uncertain. "About eight miles from Stirling," says the writer, "by the Sheriffmuir Road, near a place called Harperstone, there is a remarkable circle of stones, supposed to have been a Druidical place of worship of old. The site of this circle is rather uncommon in this country—being on the back summit of a high hill, one of the Ochils, called the Black Hill, and exposed to every wind that blows. It is about two English miles south of the present roadway. Tradition records two remarkable circumstances connected with this Druidical circle, which may perhaps be worthy of being preserved. About the middle of last century there were dug up at the foot of the larger stone three vessels of clay of antique shapes, containing coins of very ancient date, which were long preserved by Monteath of Park, but are now, we regret to say, lost. So late as 1770, these coins were, it is said, to be seen at Park House, all of gold. About the year 1715, some stones on which had been engraved inscriptions were dug up at the same place; and at a previous period specimens of ancient Pictish *(sic)* armour were dug up from the bowels of this hill, which had been carefully deposited of yore some feet below the surface in crypts of curious description."

BLACKFORD STONES.

(1) On the south side of the road from Blackford to

Auchterarder, about 50 yards west from Leaninghead, where the line of the road is crossed by that from Gleneagles to Crieff, stands a fine stone of Highland grit. It measures 4 ft. 10 in. in height above ground, 10½ feet in girth at the base, and 6 ft. 9 in. in circumference at top. It shows four sides of nearly equal measurement—that facing north being 2 ft. 4 in., south 2 ft. 8 in., west 2 ft. 8 in., and east 3 ft. On the north is an incised figure in the form of a parallelogram, 10 in. broad by 9 in. high., divided into three equal portions by two horizontal lines. (2) About 300 yards in a westerly direction from this is another stone standing in a field. This is roughly columnar in shape, but wider at the base than above. Its height is 3 ft. above ground; circumference at base 6 ft. 5 in., diminishing to 4 ft. 2 in. at the top. It is of metamorphic schist. The line of direction between these two gives a horizontal angle of 260°.

AUCHTERARDER STONES.

Less than a mile to the west of the town, at the point where the roads from Gleneagles and from Auchterarder for Kinkell meet, is a fine group of stones, two only of which are now standing. These stand on the summit of what has been a well-defined mound, and the stones now lying where the roads unite seem to have stood originally at the same height. The road has been driven through the group at a lower level than the summit of the mound, and the stones have been thrown down and laid in the waste space at the point of junction. The small mercy to be thankful for is that they have not been broken up altogether and used for road metal. This has probably been due to the circumstance that one of these stones has a curious encircling groove running round it, which perhaps impressed even the vandal roadmakers with the idea that it might be worthy of preservation. It would be interesting to know whether, when the circle or group of stones was cut through, any cist or interment was found. One would expect such to be the case, but I have not yet got any information on the point. There are several stones lying on the spot which may or may not be pieces of the original standing stones. Two considerable bits of old red sandstone, at least, look as if they were fragments of an original whole. Two great stones, however, are unmistakeably prostrate standing-stones; and from the positions in which they lie, it seems to me as if the persons who had uprooted them had laid

them down as nearly as possible on the sites they had occupied (at the original higher level, of course, when standing. The direction in which both of the standing stones point is 235°, and a line taken from each of the prostrate stones to the opposite standing one gives very nearly the same angle (240°). The prostrate stones are of metamorphic schist. The northerly one measures 7 feet in length by 3 feet in width, and is from 12 to 18 inches thick. A groove or furrow, 2 inches deep at its greatest depth, and from 2 to 4 inches wide, appears to run right round it, at a distance of 2 feet 10 inches from the end, which may have been about the middle height of the stone when erect. The lower side of the stone cannot be seen, but the appearance at the edges indicates that the furrow is carried all the way round. It looks just such a hollow as might be worn in stone by the long-continued attrition of an iron chain. The more southerly prostrate stone is 6 feet in length, 4 feet wide, and has an average thickness of 18 inches. The two stones still standing are on the high bank above the road, just inside the hedge. These are both of old red sandstone, thinnish slabs, facing in the direction already mentioned. That to the south is 4 feet 10 inch in height, 2 feet 8 inch broad at the base, and 10 inches thick. The other is 5 ft. 3 in. at its greatest height, 3 feet 10 inch wide, and from 13 to 15 inches thick. On its northern face it shows a number of depressions or indentations curiously resembling prints of human feet. These Mr Kidston considers to be due to natural weathering.

CAMP STONE—BRAES OF DOUNE.

This, and the stone to be immediately after referred to, I notice in passing, not because I consider them in the same category with the others, but simply because their names seem to indicate some obscure historical or traditional connection which may yet be cleared up. What is called the Camp Stone lies high up on the Braes of Doune, on an eminence in a plantation on the left bank of the Annat, just where that stream leaves the moorland and leaps over a waterfall to take its way through the more cultivated ground below. It is a large split block of conglomerate, such as are scattered plenteously enough over the braes that slope down from Vamvar, and does not seem to me ever to have been a standing stone. Its length is 9 feet 9 inches, breadth at base 3 feet, and height 2 feet. As to the reason of the name, I have not been able to learn

much. It has been suggested that it is connected with the names Cambus and Cambus-Wallace—places further down the Annat.

GORDON STONE—BRAES OF FEDDAL.

The Gordon stone lies on the south bank of the Bullie burn, about 300 yards west of where it is joined by the Tochie burn. It is a huge block of conglomerate, similar in most respects to the Camp stone on the Braes of Doune, but much larger. It measures, at its greatest length—south-west to north-east—14½ ft. It has a height of 7 ft., almost uniform throughout, and is 7 ft. across at the south-west end. A line taken through its long axis makes an angle of 255°. The north side is the natural bed of the rock, inclined to the horizon at an angle of 70°. It is not a Standing Stone, in the usual sense of the term, but merely, like the Camp stone, a great boulder dropped from the glacial drift. No one in the neighbourhood, so far as my enquiries went, could explain the origion of the name. I have a vague remembrance of having read somewhere that there were once proprietors of Feddal of the name of Gordon.

THE GLENHEAD STONES.

1. These stones have also been referred to in my previous papers, but for the sake of completeness and as the measurements have been verified by additional visits, they are included here. They occupy a site about equidistant from Dunblane, Bridge of Allan, and Doune. on the farm of Glenhead, close to the boundary line between the parishes of Lecropt and Kilmadock, but within the confines of the latter, and about 100 yards north of the line of road between Bridge of Allan and Doune. Three stones are still standing in a line which takes a direction of 235°. Another lies beside the most northerly of the three. One is inclined at first sight to take this for a portion broken off from the stone beside which it lies. But the way in which the bed-markings run seems to be rather against this supposition. It may have formed a fourth in the original group, which had been overthrown and moved to beside the other in order to be out of the way of agricultural operations. The most southerly stone is irregularly pyramidal in shape. It stands 6 ft, 8 in. above ground. The converging sides are each 3 ft. 6 in., and the third 2 ft. in breadth. The circumference is therefore 9 ft. The second in the series is interesting from the cup-

marks which cover the flat top. Of these there are 24 in all, one near the centre larger than the others —although it has obviously and recently been tampered with. This stone, though not so high, is more massive than the others. It has four sides which run almost straight up from base to top. The two greater sides are each 3½ ft., and the two smaller each 2½ ft. across. The circumference is 12 ft. The height 4 ft. 6 in. The third stone is 6 ft. in height, 2 ft. 6 in. in breadth, and 1 ft. 6 inch thick. The fourth, which lies beside it, measures 7 ft. in length, is 4 ft. 6 in. at its greatest breadth, and 1 ft. 10 in. thick. All the stones are of Highland grit. 2. To the north of this alignment, about a quarter of a mile distant, and a little to the east of the farm buildings of Glenhead, stands another tall stone in the line of a wall that bounds a strip of plantation. It is seven feet in height above the level of the field to the east, is 5 ft. 6 in. in width, and varies in thickness from 15 in. to 2 ft. It is a large slab of the native rough sandstone of the district, and is set in a line of 253°.

BLAIR DRUMMOND STONE.

This is a very fine boulder of Highland grit, stranded on a gravel mound, near the official residences on the Blair Drummond estate. The knoll is wooded, leaving a clear space in the centre for the stone. It would thus appear to have been thought worthy of preservation for some reason or other. It has no appearance, however, of having been erected as a standing stone. It measures about 6 feet in height and 12 feet at its widest circumference. In the new Statistical Account of Kincardine-in-Menteith it is thus referred to:—"We may take notice of a large stone which stands on the summit of Borland Hill. It is 5 feet above the ground and 12 feet in circumference, but more flat than round, and of a conical form near the top. It is apparently in a native state, bearing no marks of the hammer or the chisel, and is a very large boulder of slate *(sic.)* A very vague tradition represents it as having been a place of religious worship in superstitious times. There are no other remains near to confirm this opinion; but whether it be correct or not, it is evident that its site is a very important one, and may have been useful as a signal station, as it commands a view not only of the road across the Moss of Kincardine, but also of the line of the Roman stations along the Forth and Teith in the direction of the Camp at Ardoch."

MALLING CUP-MARKED STONE—LAKE OF MENTEITH.

On the west side of the Lake of Menteith, about half a mile south from the farm-house of Malling, this stone is to be found, lying at the boundary of the arable land. The ground at the place rises into a slight eminence, on the top of which the stone lay till some seven or eight years ago, when a labourer took it into his head that a stone on which so much labour had evidently been spent must have been intended to cover something valuable. He proceeded to excavate the earth at the side with the intention of getting at the buried treasure, with the result that the stone slipped down into the hole which he had made, where it now lies. It is quite possible, however, that an interment, if no treasure, might be found beside it on further research. The stone is roughly circular on the surface, measuring about 4 feet in diameter. It is entirely covered with cup and ring marks—22 cups in all—varying in size from an inch to two inches in diameter. The cups and rings are very symetrically formed. Nearly in the centre is a fine one surrounded by four circular grooves. Others have incomplete triple and quadruple circles, with radial duct dividing them. There are other curious curves that sometimes interlace, and near the lower side of the stone are five or six cups with straight channels running out from them over the edge. This is an extremely interesting stone. It is unique in our neighbourhood, so far as I know, in showing these symetrical carvings. They are now, however, much weather-worn.

ABERFOYLE STONE CIRCLES.

To the south-west of the Manse of Aberfoyle, and just outside its policy wall, there is a sort of plateau not of great extent. Just to the north of this plateau, it may be mentioned, used to stand the change-house and the old Clachan, some ruins of which may still be seen. The edge of this eminence is a large arc of a circle, and from it the ground dips to a marshy hollow. Here stands a small stone circle, about 20 feet in diameter. It has unfortunately been dug into, and the stones consequently somewhat displaced. The present ruin consists of 12 or 14 stones, set pretty close together and surrounding a central one. At one or two points the appearance suggests an original double circle, but the outer one is not new nearly complete. From the circumference a straight line of stones runs outwards to a distance of 55 feet in a direction

45° west of magnetic north. In this line there are six stones, arranged at nearly equal distances from each other, the largest being a nearly rectangular slab 16½ feet by 4 feet. None of these are now standing. This line is a radius of the circle produced; and if we take a diametrical line through the circle at right angles to this radius, we get a direction of 251°. Another line, nearly a tangent to this circle, runs from the circumference a distance of about 50 feet in a direction 5° to the east of magnetic south. The stones in this line are more irregularly placed, and there is a considerable blank about the middle. Both lines run down the sloping edge of the plateau—the latter more directly. At the extremity of this there is a circular mound of about 28 feet radius, not very high. This appears to be of a gravelly nature. A boulder on the top is about 4 feet from the centre. Round the circumference are several blocks showing above ground—not standing up. The mound is close to the edge of the previously mentioned marsh. The first circle has been dug into. The other has no appearance of having been touched.

FINTRY STONES.

1. *The Knockcraich Stone.*—This stone stands on the north side of the Water of Endrick, about a mile below the bridge at the village of Fintry, and two or three hundred yards below the farm-house of Knockcraich. It is placed on the bank rising up from the river. In shape it is approximately square—the two sides facing nearly east and west, measuring each 1 ft. 7 in., the north face 1 ft. 6 in., and the south 1 ft. 3 in. These dimensions are uniform from top to bottom. The total girth is therefore 5 ft. 11 in., while the height is 3 ft. 8 in. Orientation 225°. There are a number of cupmarks both on the top and side, as well as several incised lines and other markings, some of which, however, give evidence of recent sculpture. The stone seems to have brought down through the ages a tradition of sanctity in connection with it, as there is a legend to the effect that any attempt to move it is attended by convulsions of nature and evil consequences to the rash disturber.

2. *The Machar Stones.*—The name by which these stones are locally known merely indicates the position they occupy in a plain (Gaelic *magh*) or comparative level among the hills. It has come down, of course, from the time when Gaelic was the language of the district. They are situated on the

summit of a low mound which rises in the upper valley of the Carron, not far from the source of that stream, and close to its junction with the Bin Burn. This secluded valley is enclosed on the south by the Meikle Bin and the Campsie Fells, on the north by Duncarron Hill, which separates it from the glen of the Endrick, on the west by Holehead and the hills which give rise to Carron Water, while it is open to the east in the direction of the vale of Carron, although, even in this direction, the view is cut off by the hills of Dundaff. The rising ground, overshadowed by the Meikle Bin, on which the stones stand, is so regularly shaped on the top as to raise a suspicion that it has been formed, or at any rate, assisted by art. Geological authority, however, pronounces it to be quite a natural formation. Two stones are standing in a line pointing to 220°. The more northerly stone is the taller of the two, measuring 8 feet in total height. The width, from north to south is 3 feet, the breadth of the north side is 2 feet 6 inches, and of the south side 1 foot 2 inches. The other stone stands 5 feet 7 inches in height. In width from north to south it measures 3 feet 9 inches. It has a nearly uniform breadth of 1 foot 9 inches, and its girth at the widest part is 10 feet.

BROADGATES STONE.

Crossing the Campsie Fells, we find a very pretty standing stone on the farm of Broadgates, in the parish of Strathblane. It stands in a field immediately adjoining the farm buildings, on the east, between Broadgates and Ballagan House. It is a few yards north of the roadway leading from Strathblane to Campsie. It is a nearly circular pillar of Highland grit, 4 feet 6 inches above ground, and 7 feet in circumference. The local tradition, as told us on the spot, is that it was erected to mark the burial place of "Sir James the Rose," the hero of the well-known Scottish ballad. This, however, is not the only place in Scotland which claims that distinction. In the account of the parish of Strathblane (*New Statistic Account of Stirlingshire*, 1841), occurs the following note:—"An erect stone, on the north of the turnpike road to Campsie, marks the spot where, two centuries ago, Mr Stirling of Ballagan was killed by a miller of the name of Abernethy." This seems to refer to the Broadgates Stone.

THE AULD WIVES' LIFT.

This famous dolmen stands nearly at the summit

of Craigmaddie moor, in the parish of Baldernock—a position which commands an extensive prospect in both directions along the low-lying isthmus that separates the Firths of Forth and Clyde. The stones, however, really stand in a hollow of nearly circular form. This hollow is enclosed all round by a cliff-face of rough sandstone, except to the south where the wall of rock sinks down and permits a wide view. The older statist affirms that the cromlech formerly was surrounded by a grove of oak trees, of which the stumps were still visible in his day. The name he thinks has affinity to the *pierres levées* of Brittany. The country legends are well known. The first affirms that the stones were brought thither by three *carlines* of the olden times in their laps. The other instructs every visitor who finds himself beside the stones to pass through the opening between them if he does not wish to die childless. The monument consists of two supporting stones, capped by a third. The two supporting stones are prismatic in shape, so that between them a triangular opening (referred to in the legend) is left. This opening looks south-west and north-east. A line taken through the longest axis of the cap stone gives a direction 250° magnetic. This may be taken also as the line of direction of the opening. Between the north-west stone and the capstone are two smaller pieces—either inserted to fill up a chink, or broken off by the great pressure. The under stone facing the south-east is 12 feet in length, 14 feet in width at the base, and 7 feet high. That looking to the north-west is 19 feet long, 7 feet at base, and 7 feet high. The top stone, laid flat on the edges of these two is nearly rectangular in surface shape, 18 feet long, 12 feet wide, and 6 feet in thickness. The stones have not been brought from a distance. They are blocks of the rough sandstone of which the hill is composed.

HERBERTSHIRE CASTLE STONE.

In the *Stirling Journal* of 12th June, 1828, appears a notice of two stone monuments in the neighbourhood of Denny. One, which was known by the name of *Hornbean*, is described as a standing stone within the private grounds of Herbertshire Castle, which had, at that time, "some unintelligible characters engraved on it." The name Hornbean is now utterly lost. There is, however, still in Herbertshire Castle grounds a small stone which has certainly some defaced carving on it. Whether this be Hornbean, I cannot of course say. It stands

about 200 yards to the east of the Castle, upon the edge of a steep bank overlooking the Carron. This bank is an old sea-beach, which is here very beautifully marked. The stone is of coarse sandstone with grit. It stands—slightly off the perpendicular —2 ft. 2 in. in height above ground, is 2 feet broad and 7 inches thick. On the front or north side a band, bounded by two horizontal lines runs across the top. Beneath this is something like a rude panel, measuring a foot wide at top, 8 inches at the bottom, and 20 inches along the sloping side. At the top of this panel, just under the horizontal band, are some incised marks, which may once have been characters of an alphabetical nature, but they are now so worn as to be practically obliterated.

THE DRUIDS' STONES—DUCHLAGE MOOR.

The second reference in the article above mentioned is to a stone on Duchlage Moor, called the Druids' Stone, and said at that time to be a "rocking stone." This is an interesting example in several respects. It is situated high up on the hills, on the edge of a small ravine about midway between the farms of Duchlage and Wester Barnego, nearer the latter, but on the ground of the former. There is quite a group of great stones of dolerite. Mr Kidston thinks their formation and grouping is on the whole the work of nature; but they bear such a close resemblance to an artificially constructed cromlech, that they may have been utilized by the early inhabitants for the purposes for which such groups of stones were reared by them. In front is an immense mass, consisting of one stone resting on two others. These two appear to have been originally one split into parts. The height of the whole taken at the front is about 9 feet, at the middle 8 feet, and the length of the mass is 15 feet. A line taken along the length gives a direction of 220° magnetic. The lower stone is 25 feet in circumference. The cap stone or rocking stone measures 15 feet in circumference. It seems to have been naturally weathered from the lower stone, and to have originally rested upon it. When thus balanced it may have rocked. It has now, however, slipped back, and rocks no more. Accounts are conflicting as to when it ceased to rock. According to the note in the *Journal* it was rocking 65 years ago. Other information is to the effect that it was rockable less than 30 years ago; but this statement wants verification. Behind the front mass with its capstone is a group of six or seven

large stones standing together. I have been told that less than twenty years ago there was a circle of standing stones surrounding the whole group. That is a very interesting statement, and on the authority of a native of the immediate neighbourhood. Unfortunately the circle is not now traceable.

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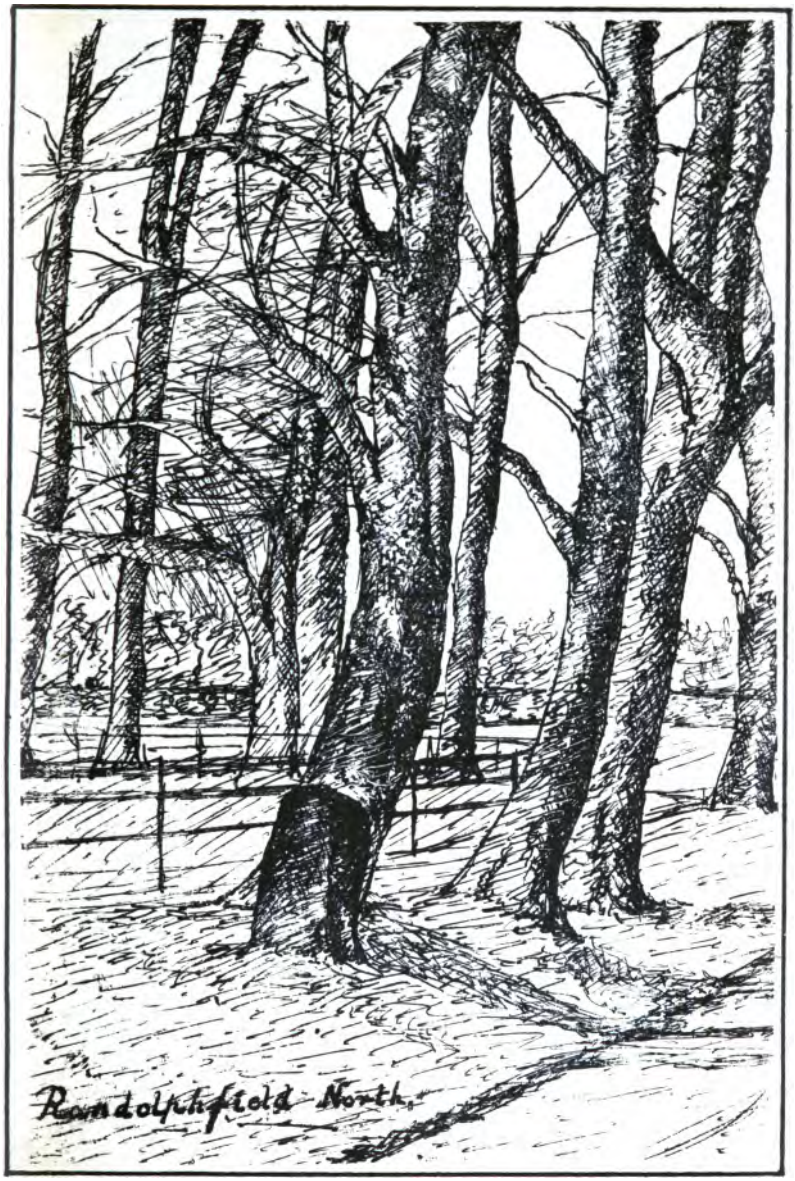
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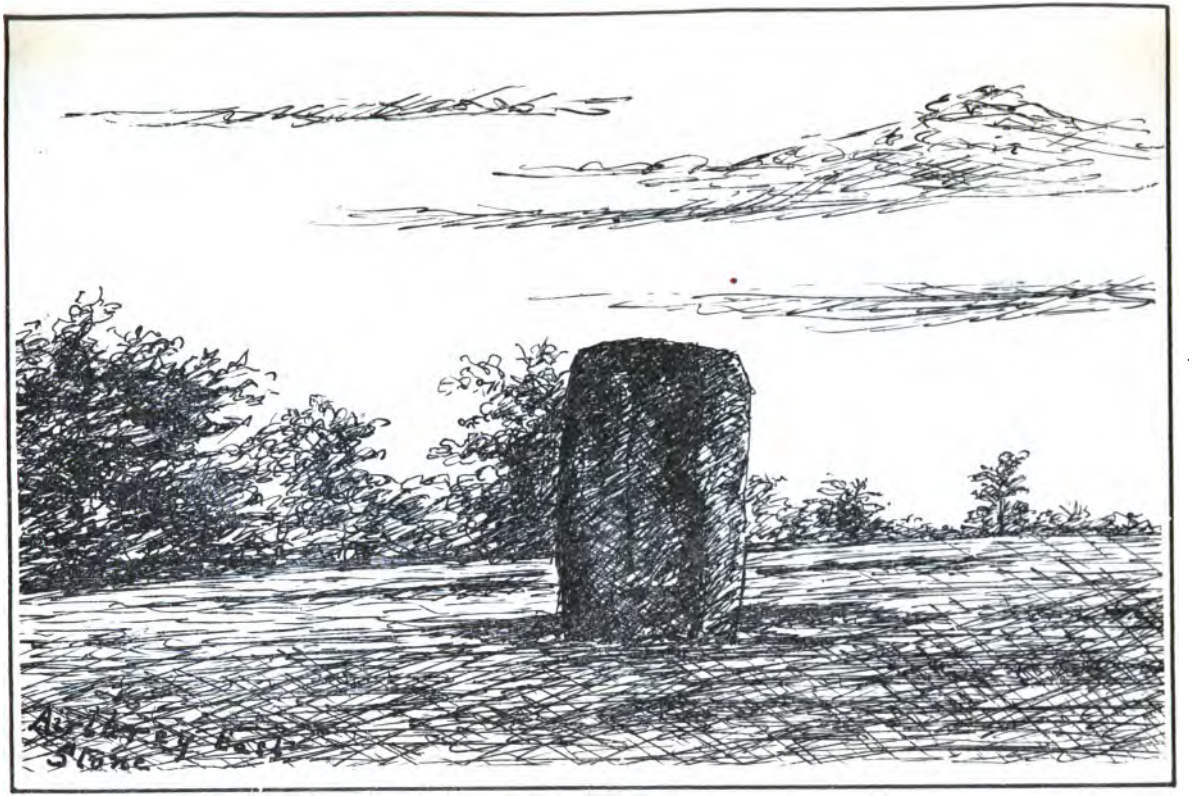
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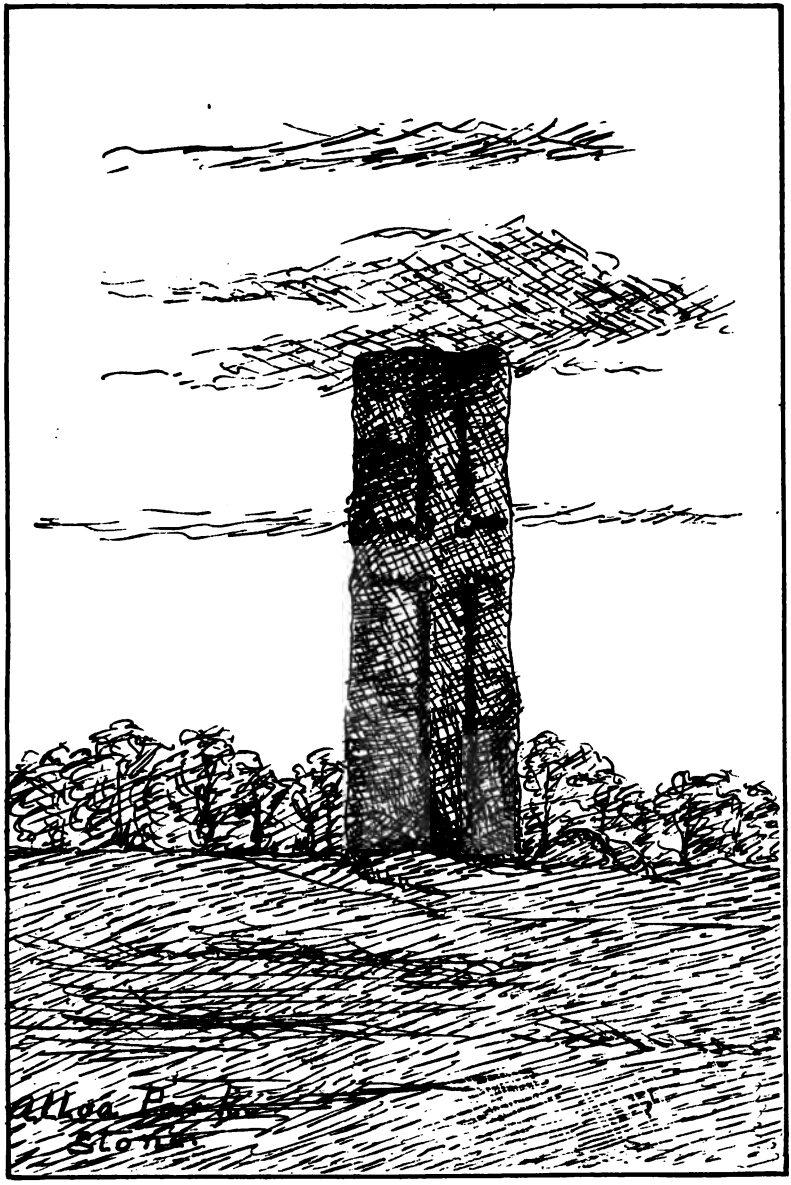

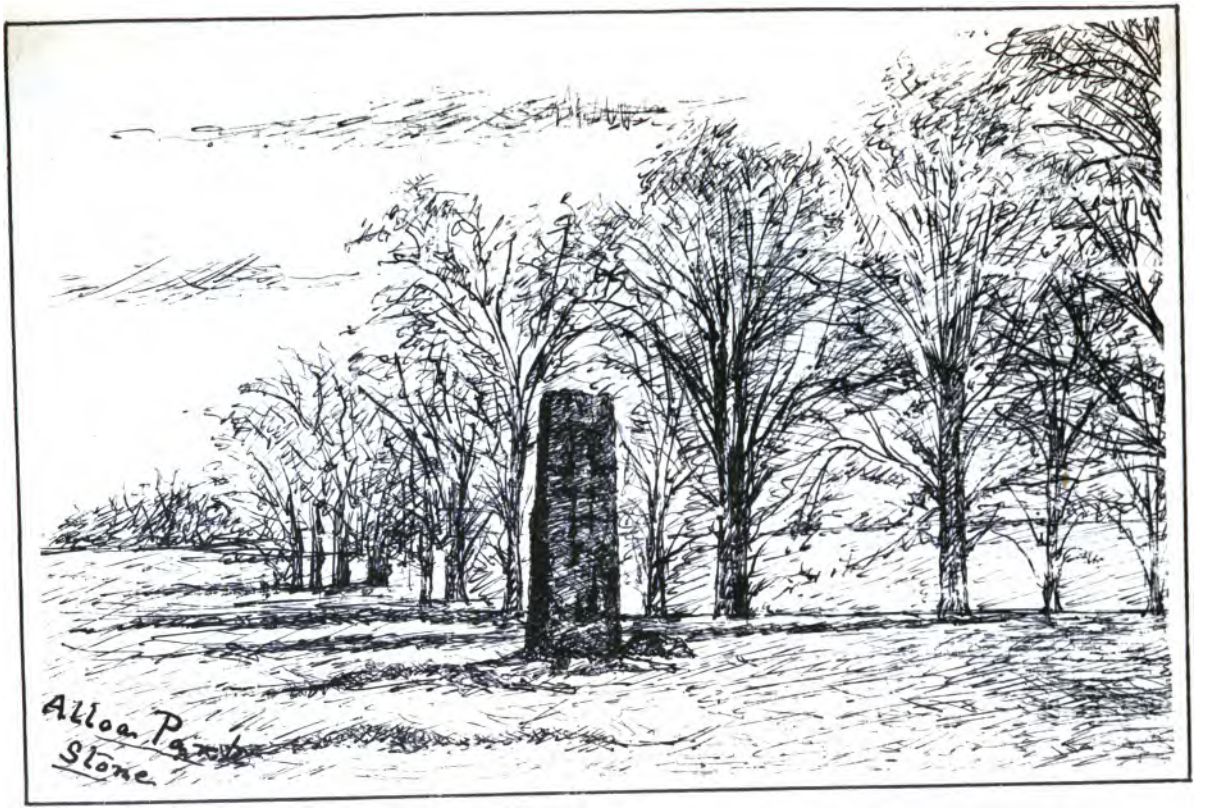
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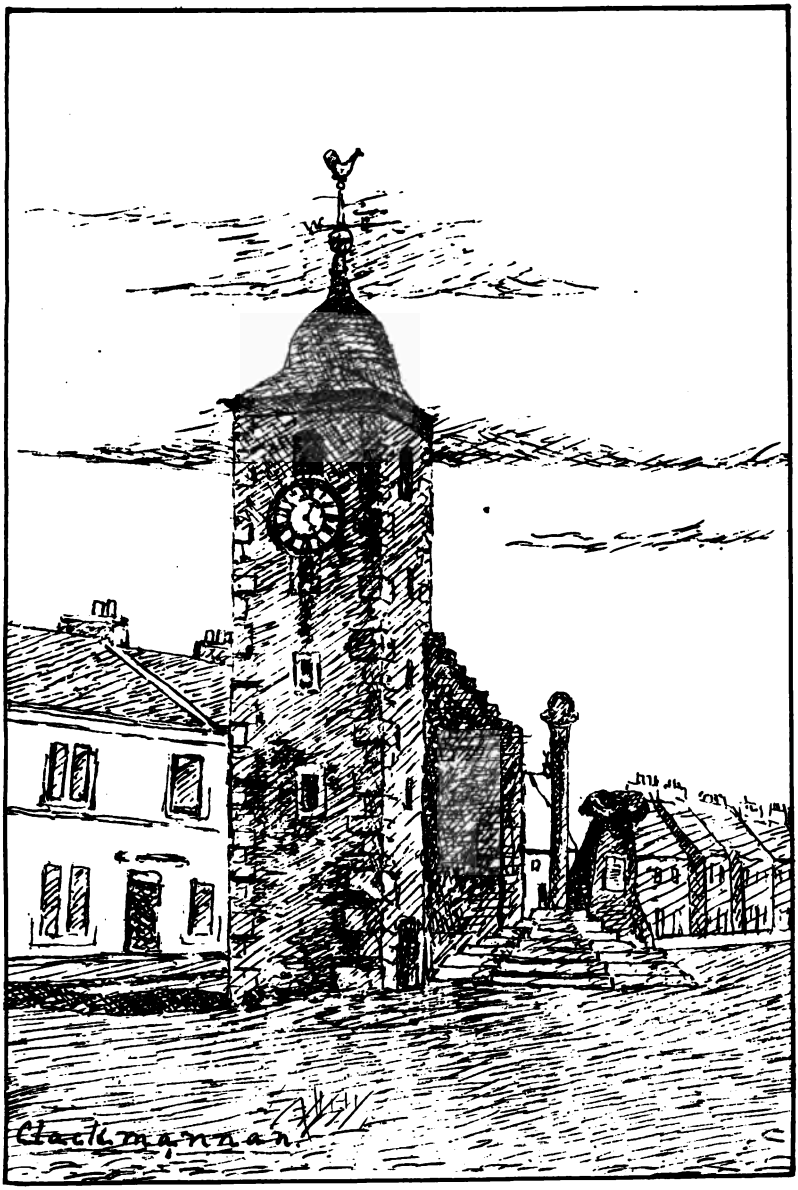
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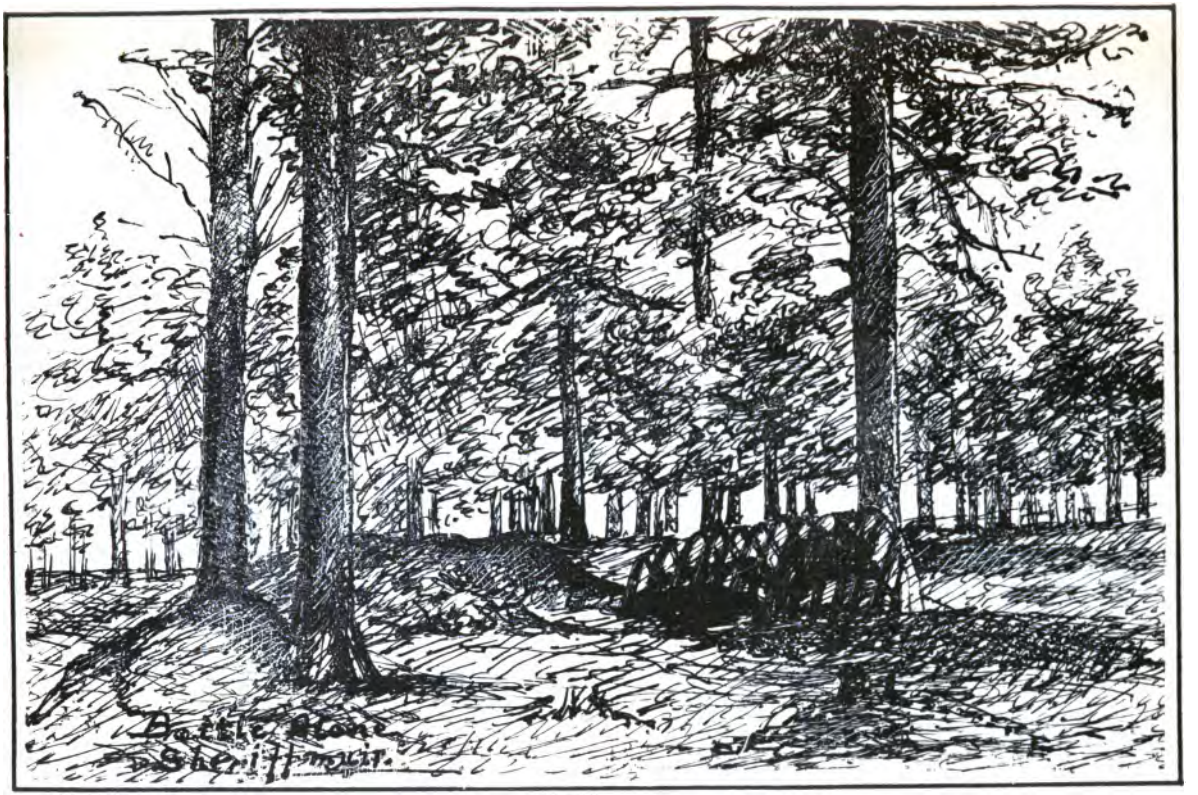
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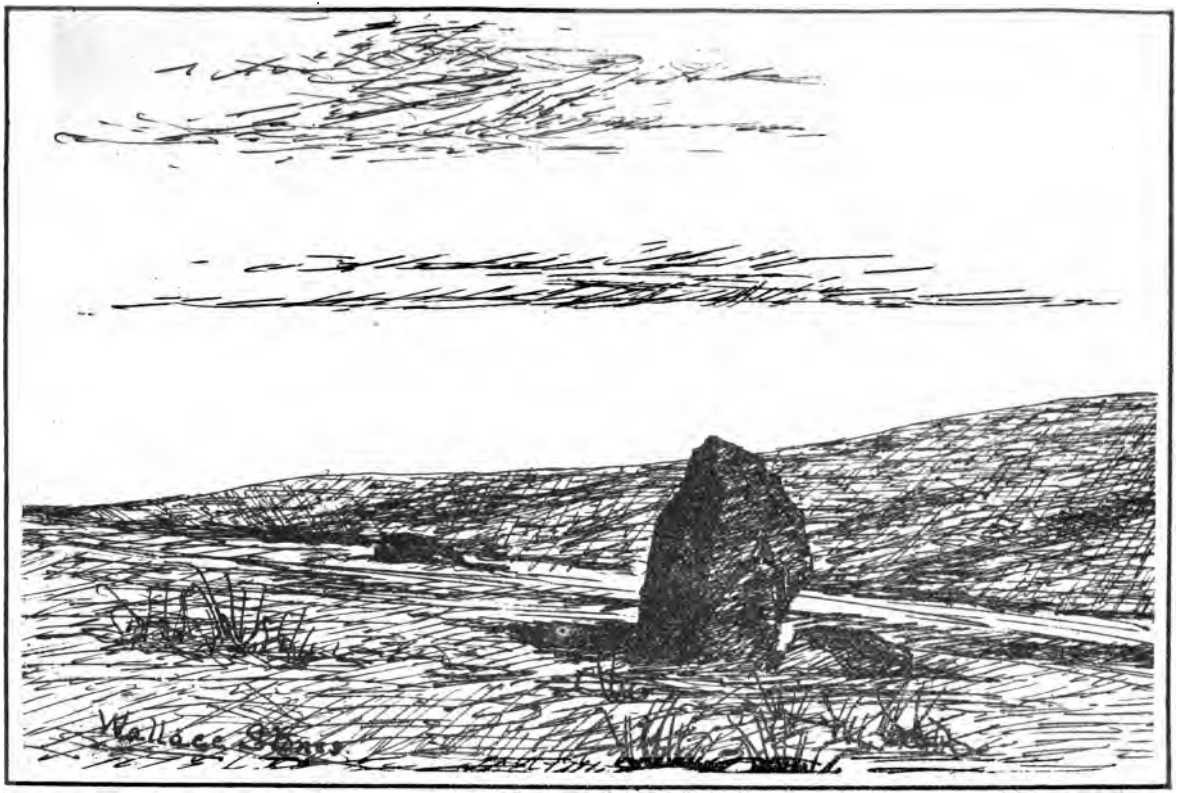
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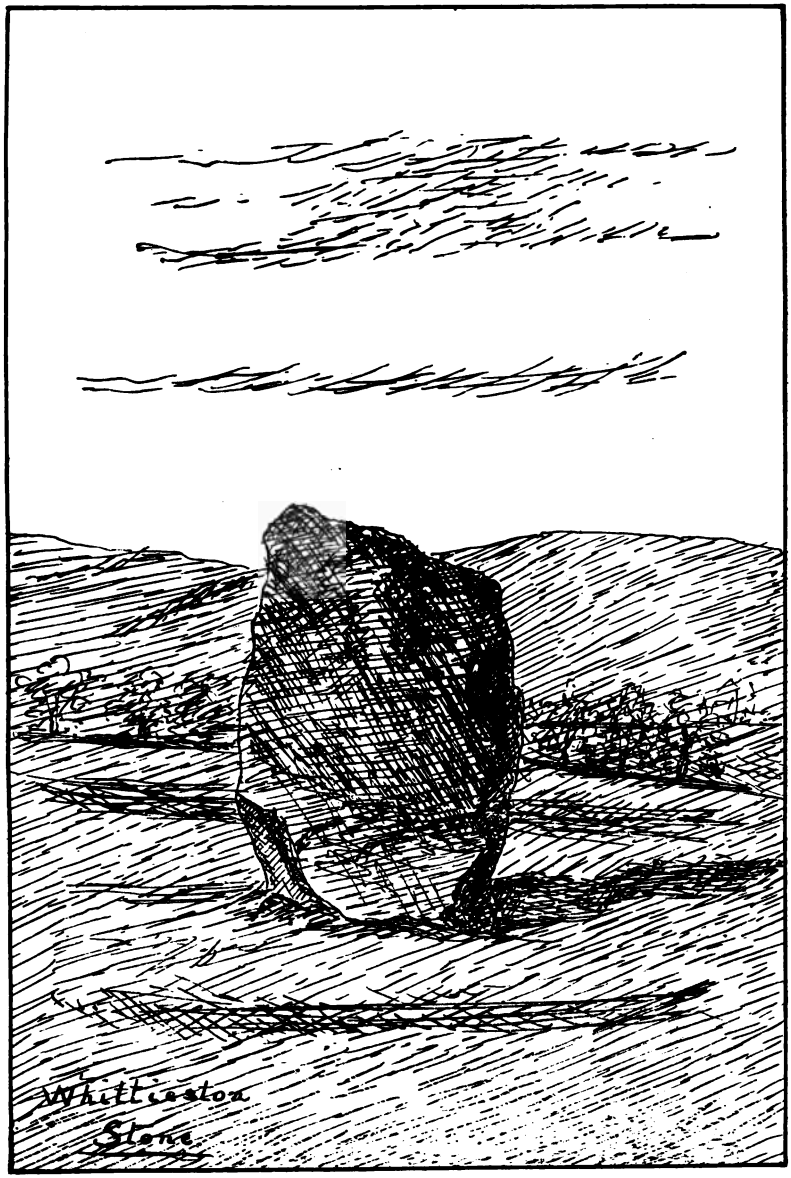
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Whittedon
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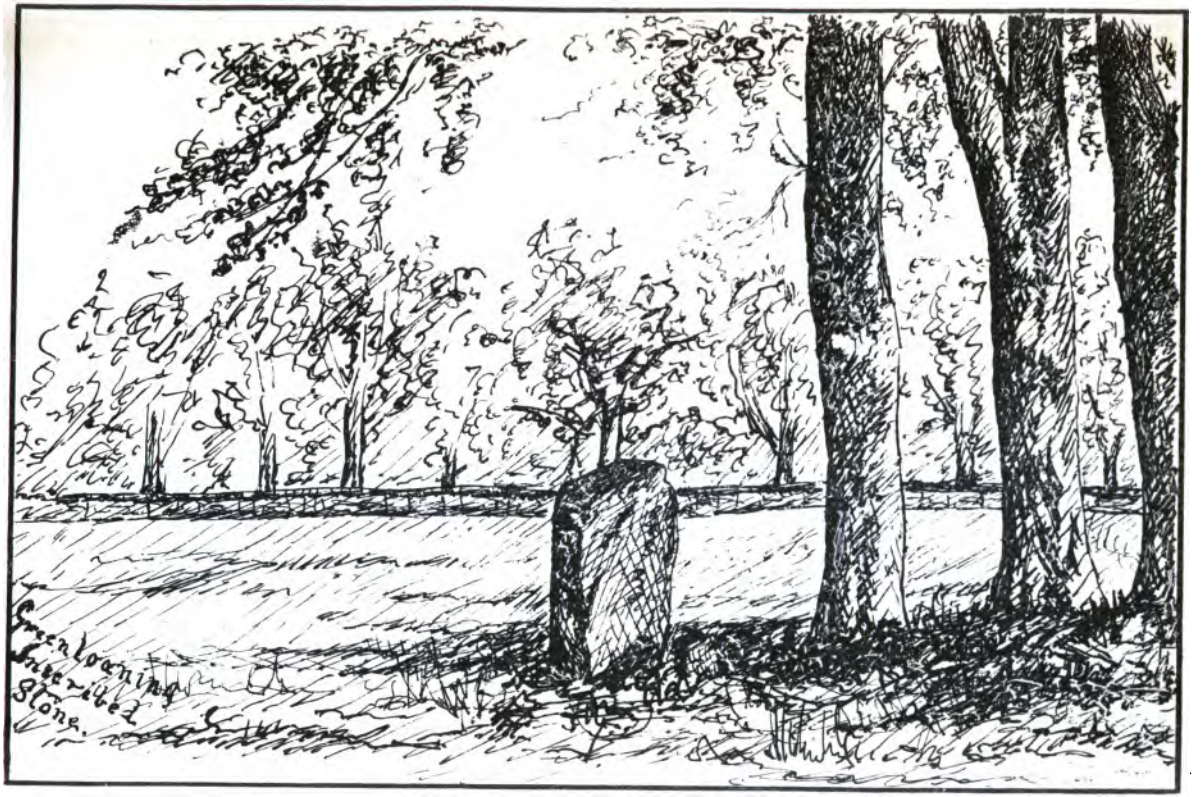
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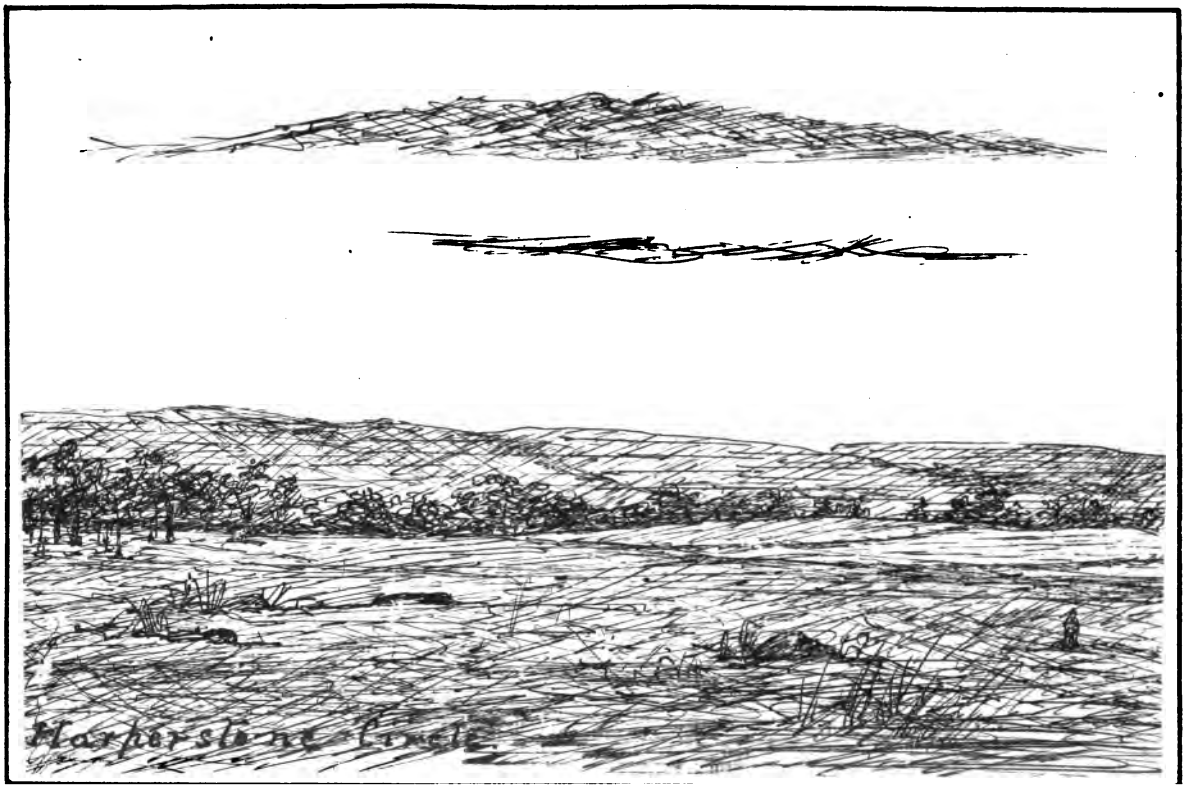
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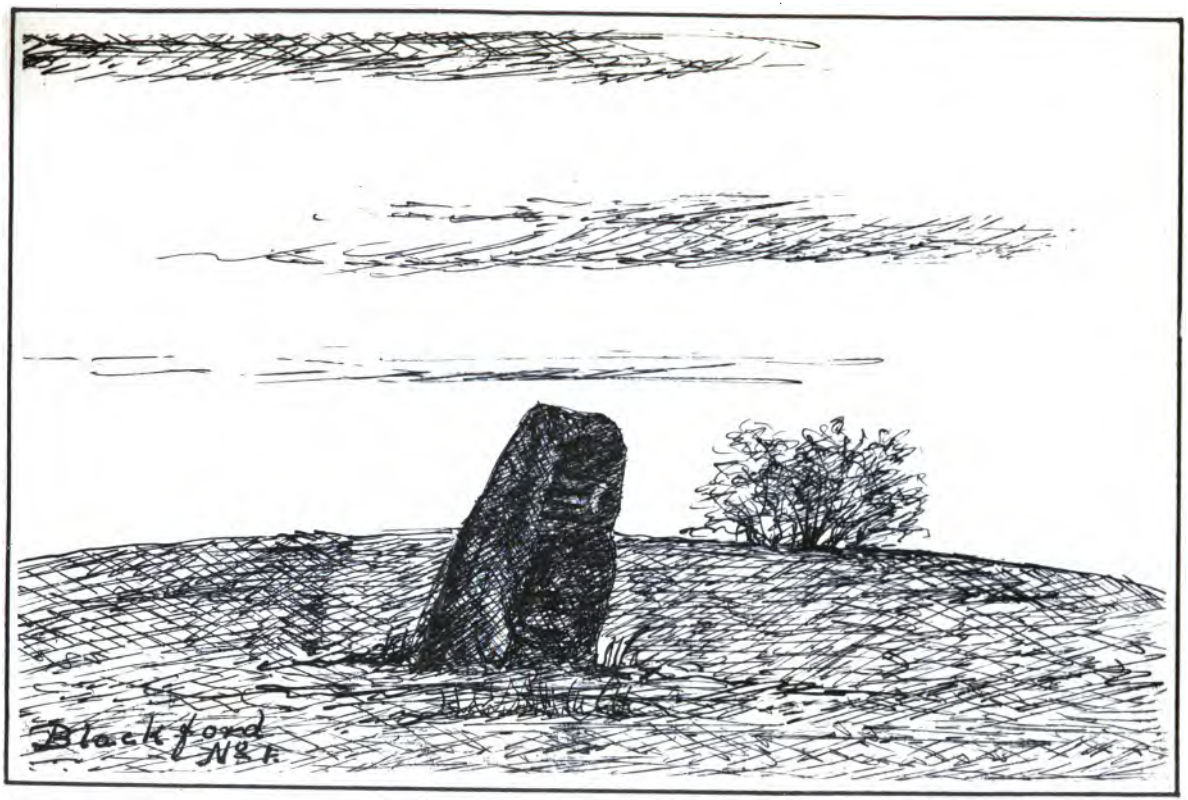
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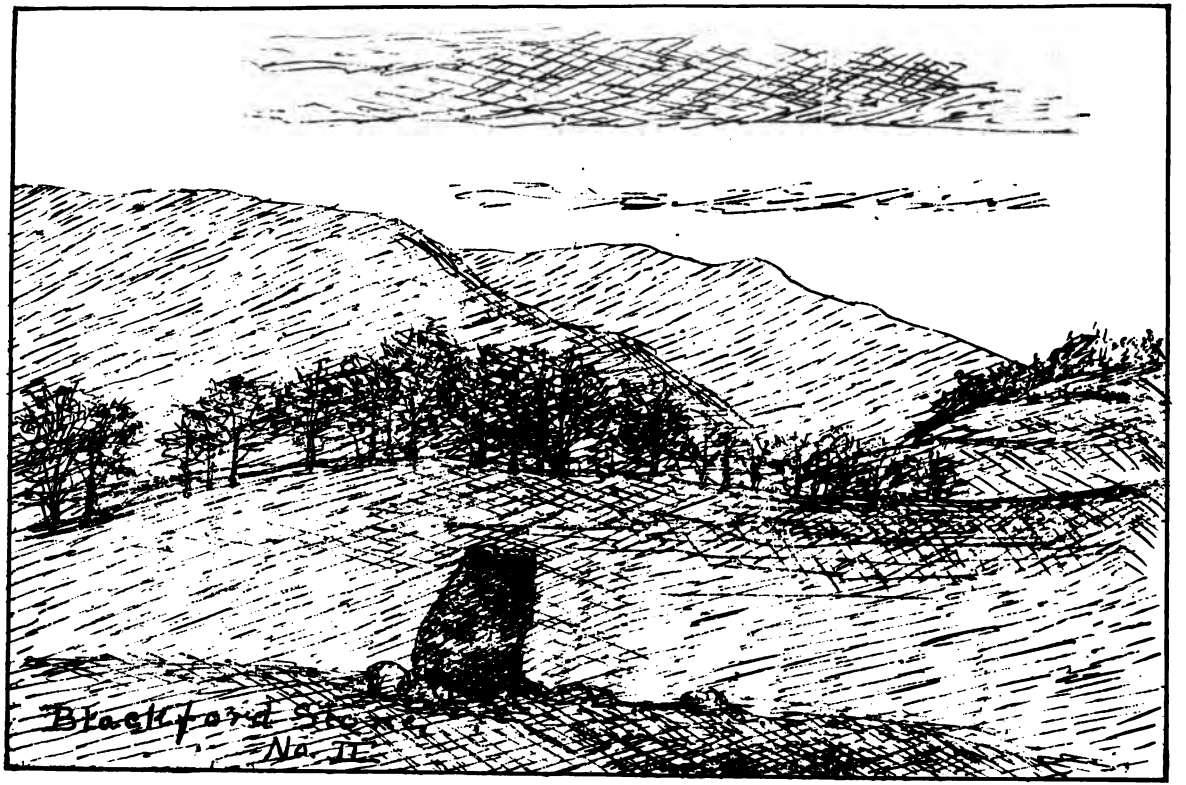
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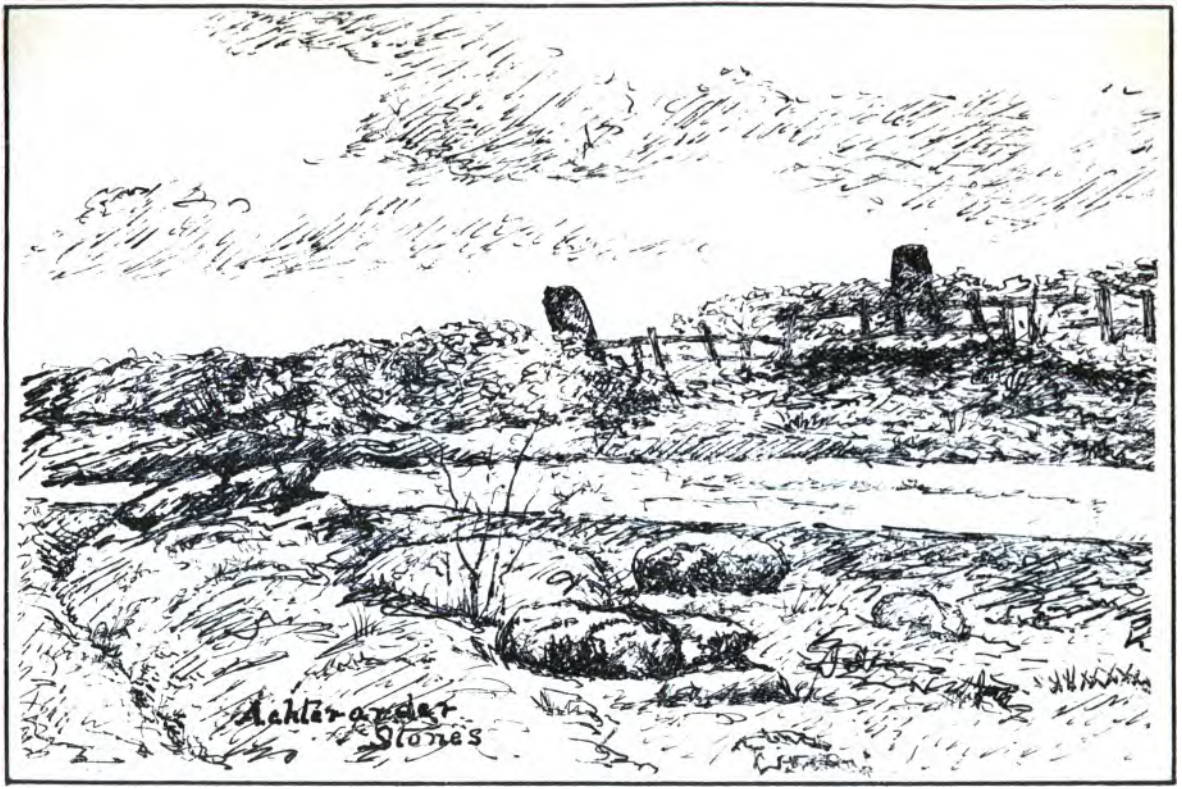
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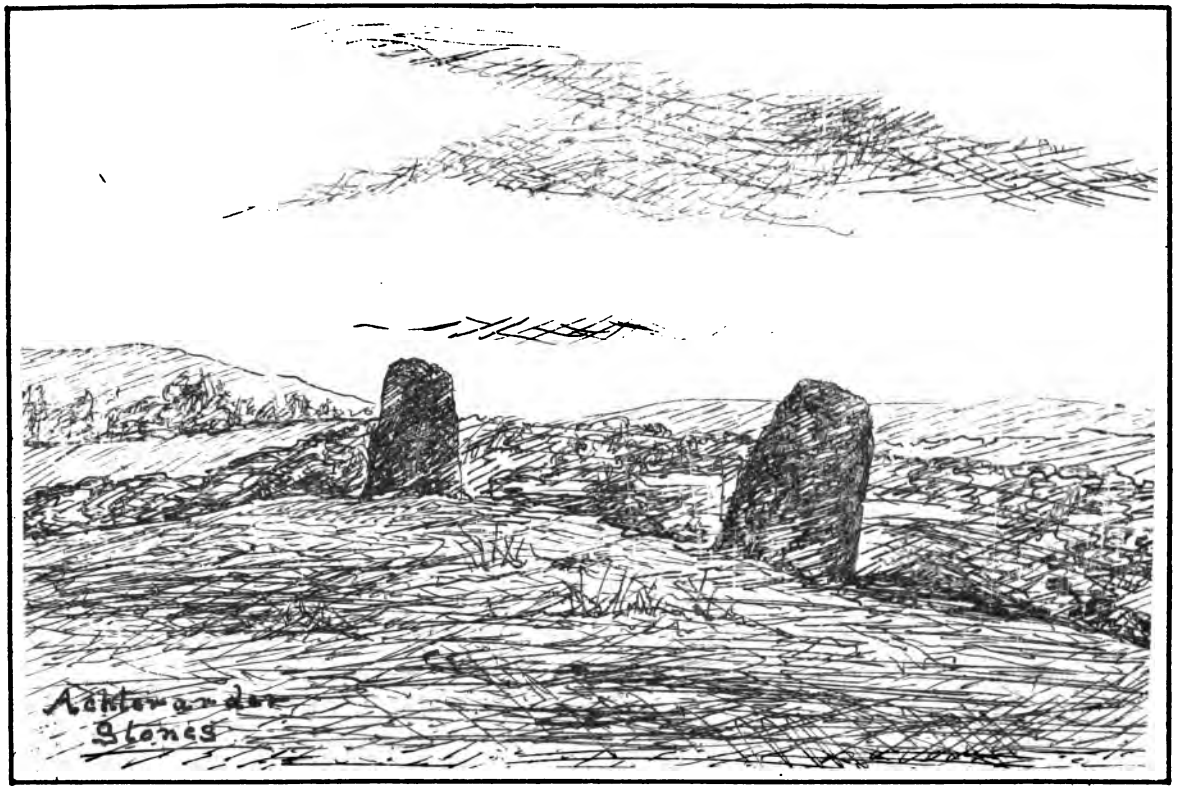
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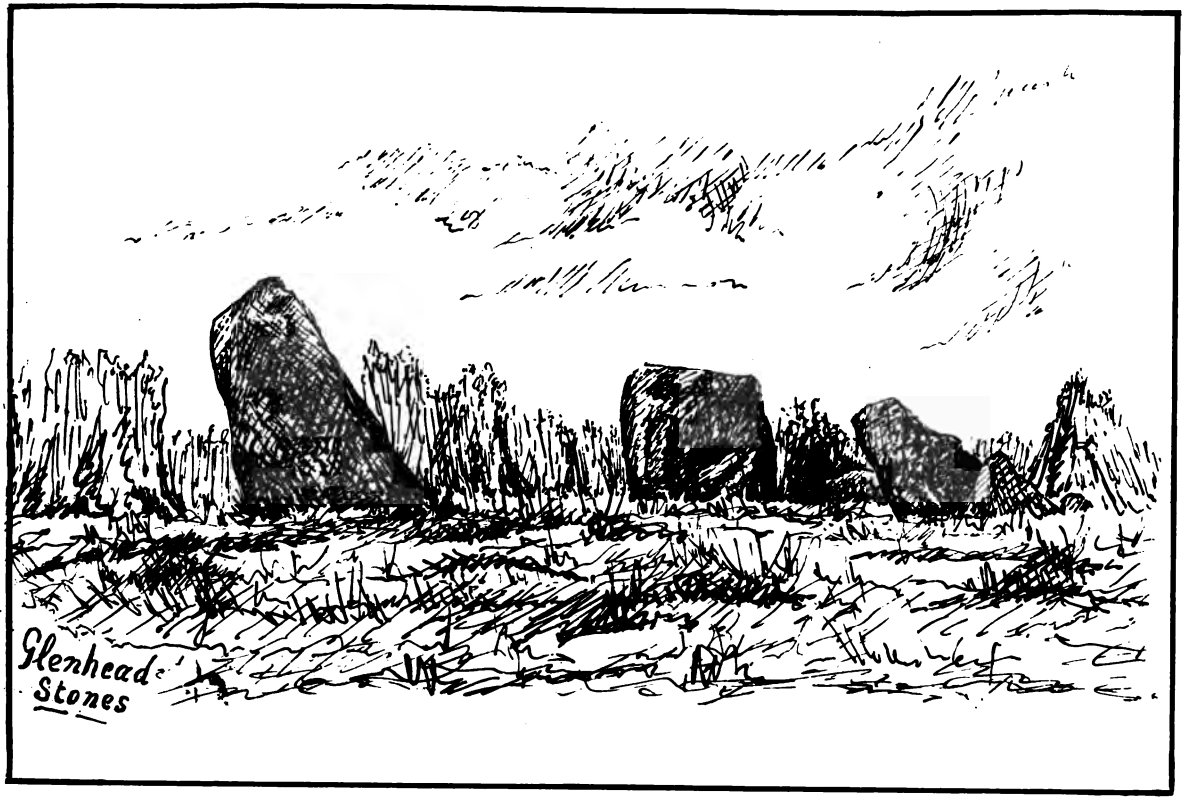
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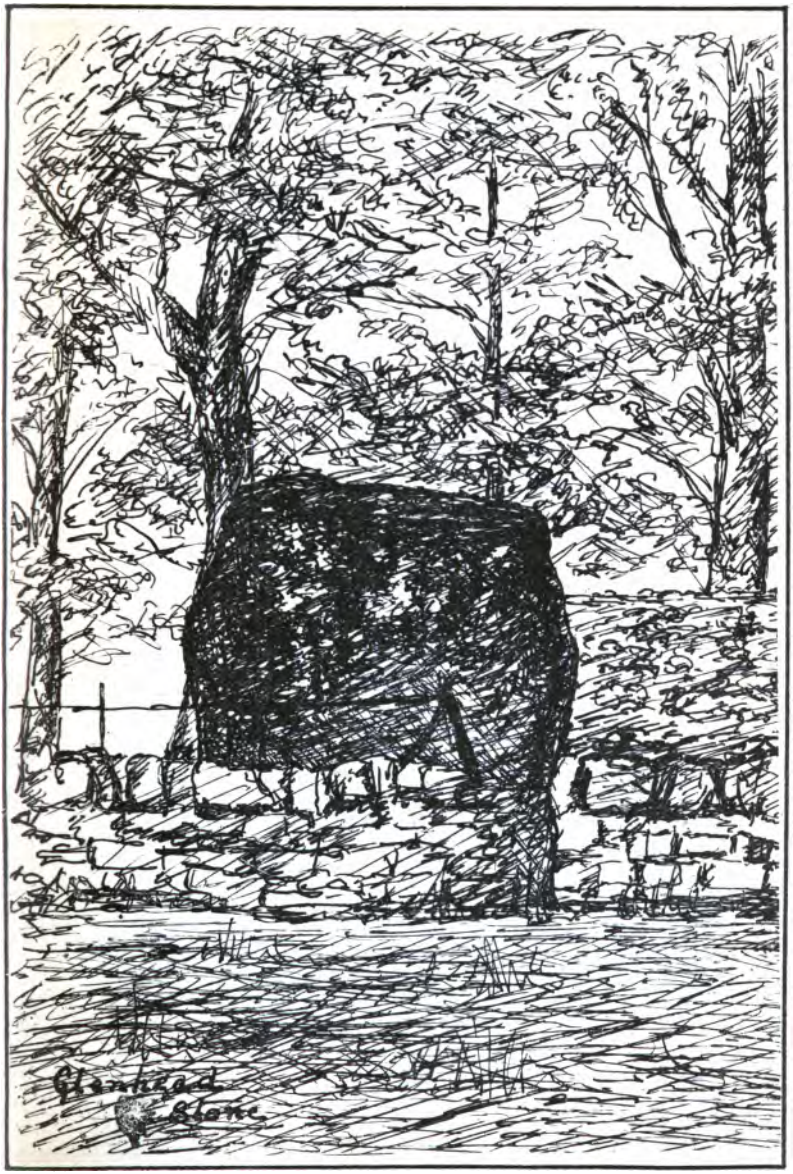
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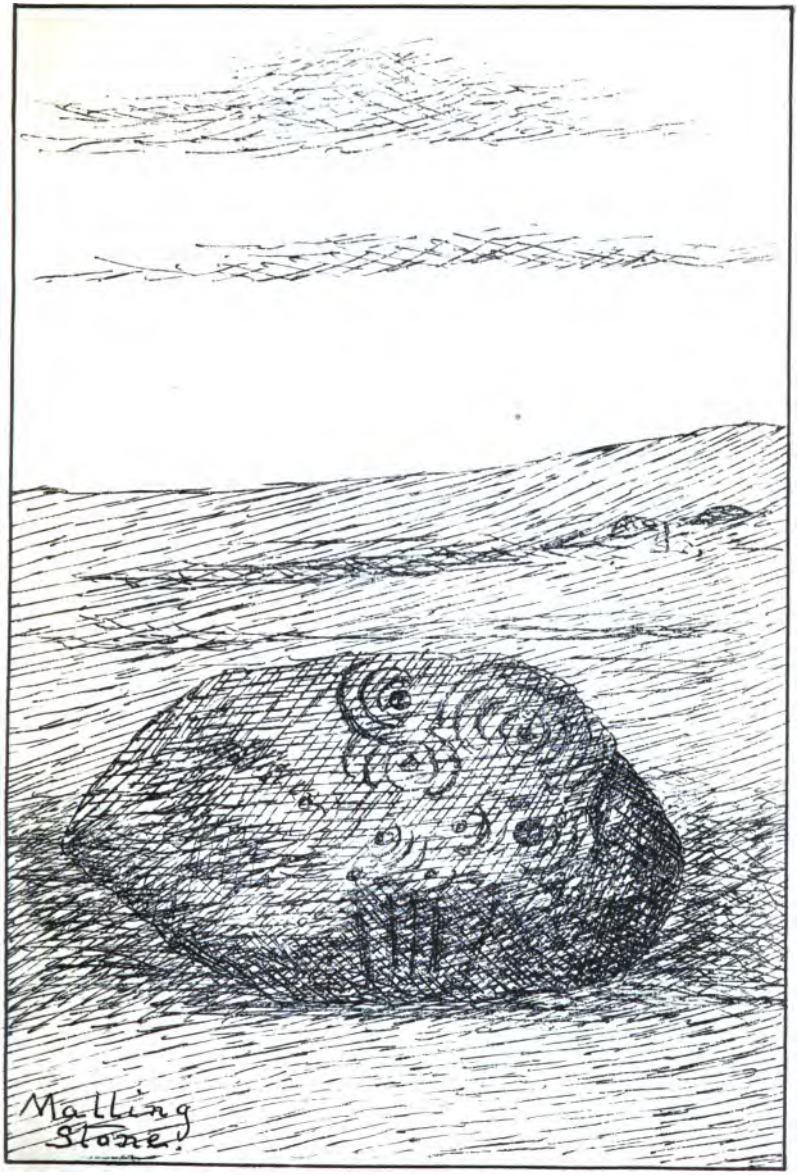
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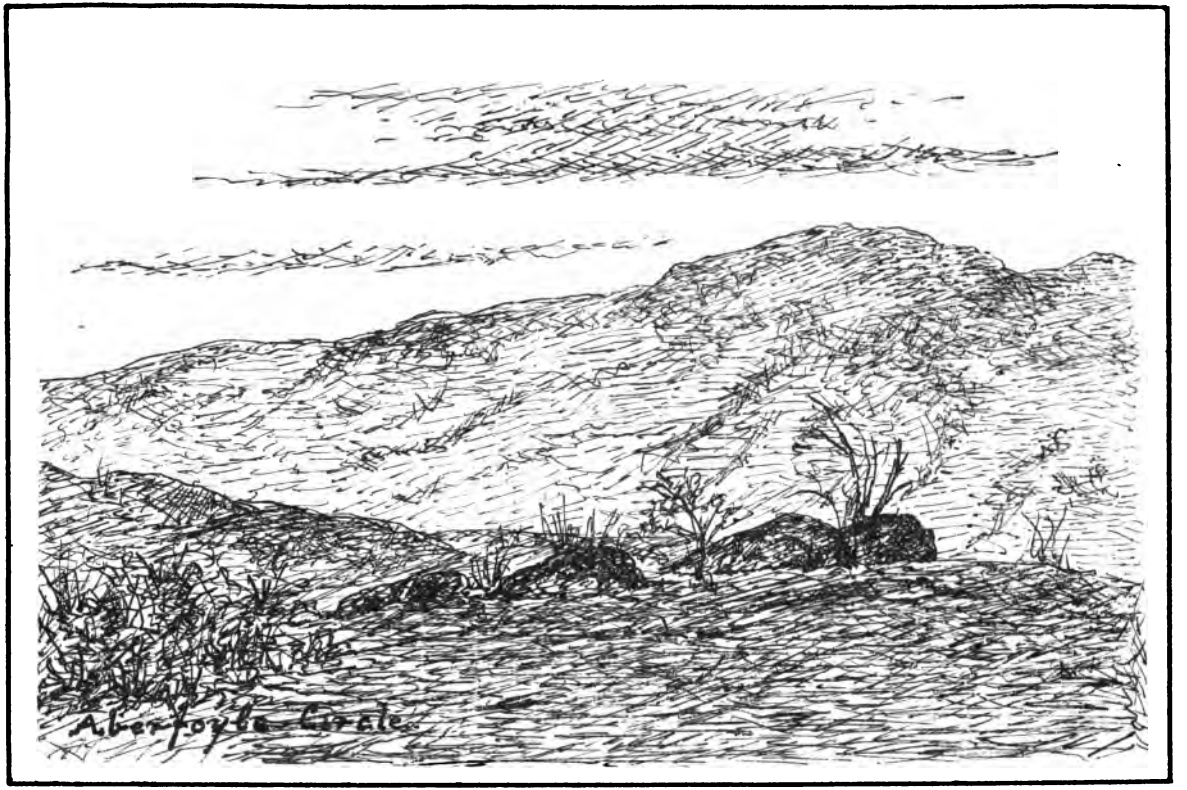
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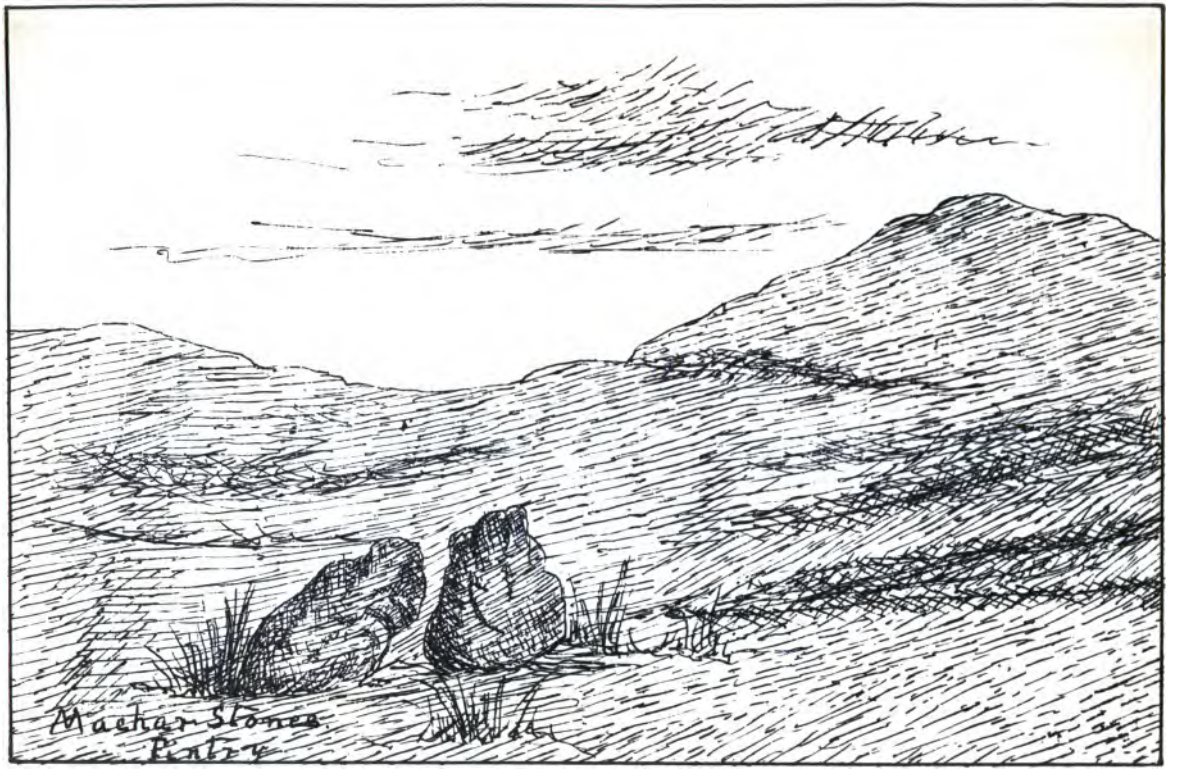
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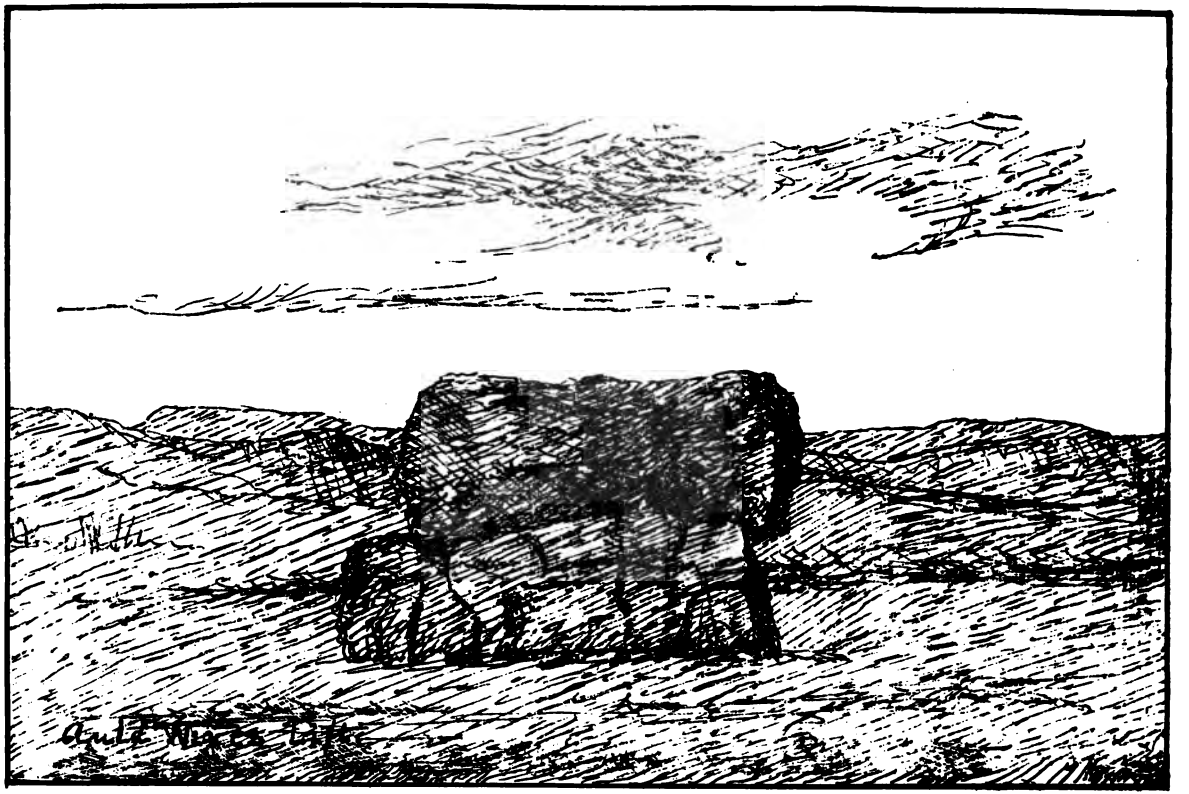

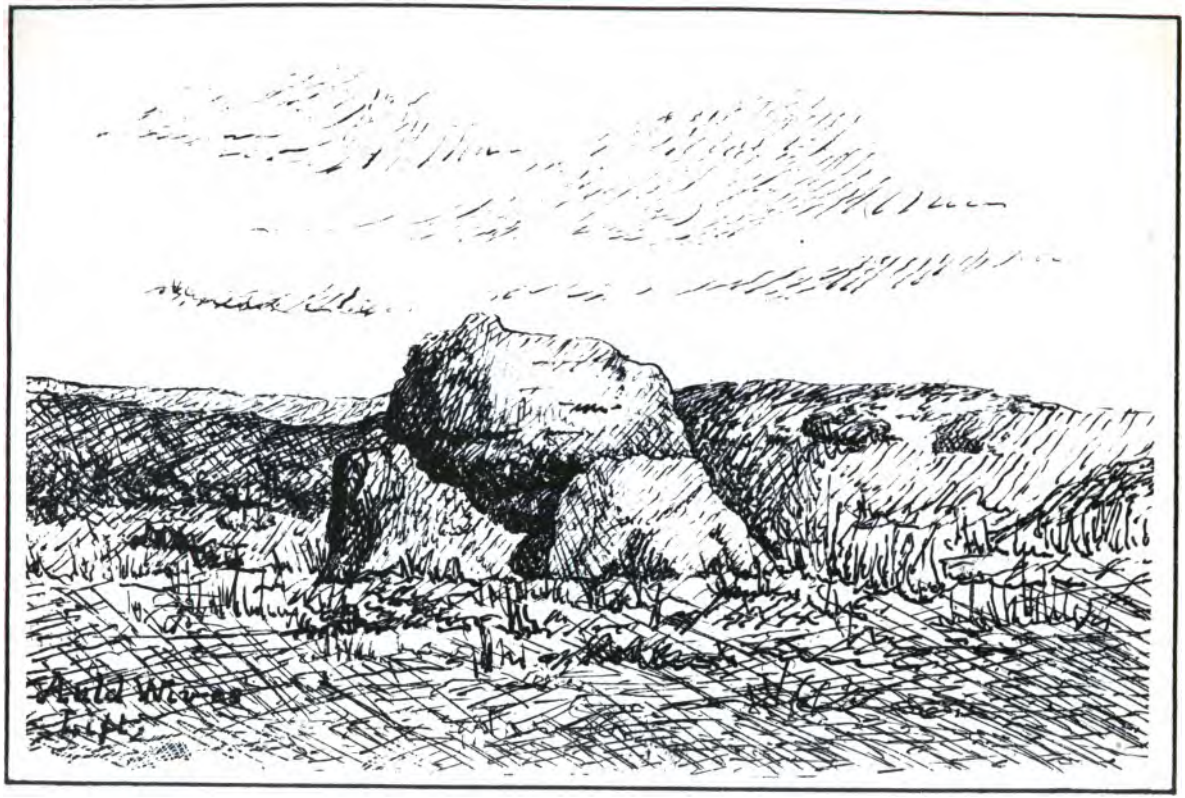
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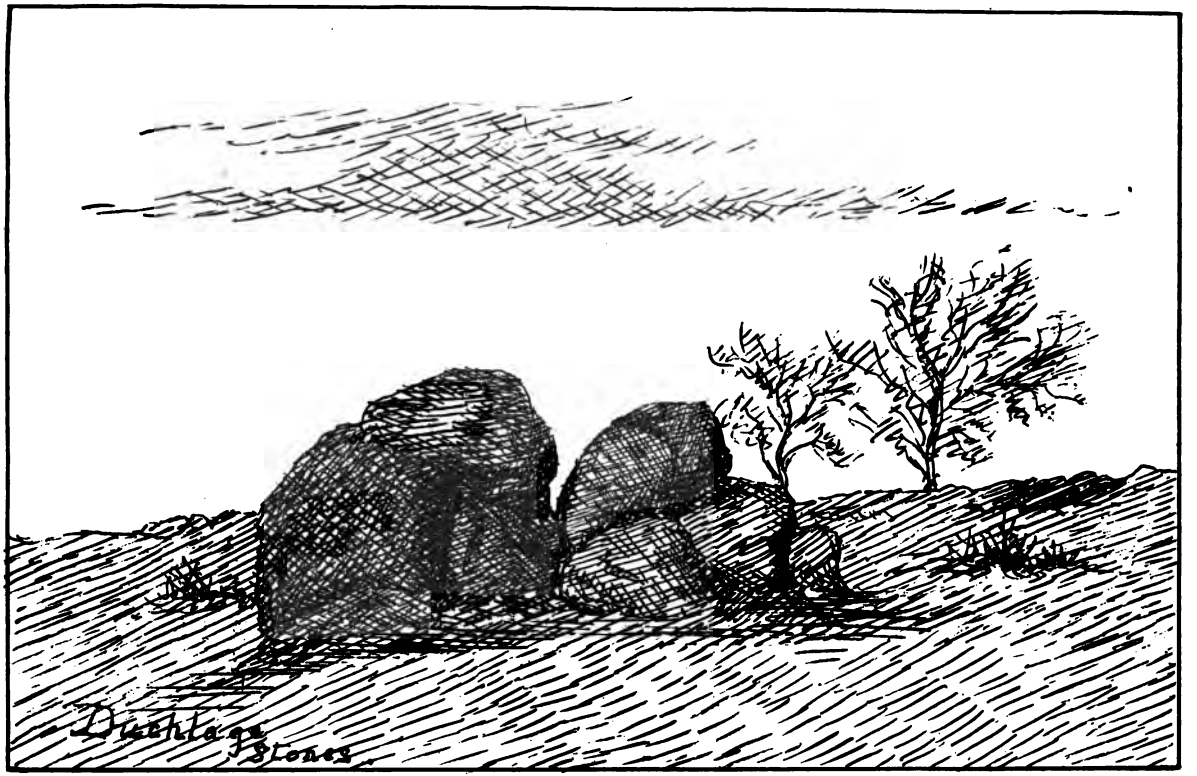
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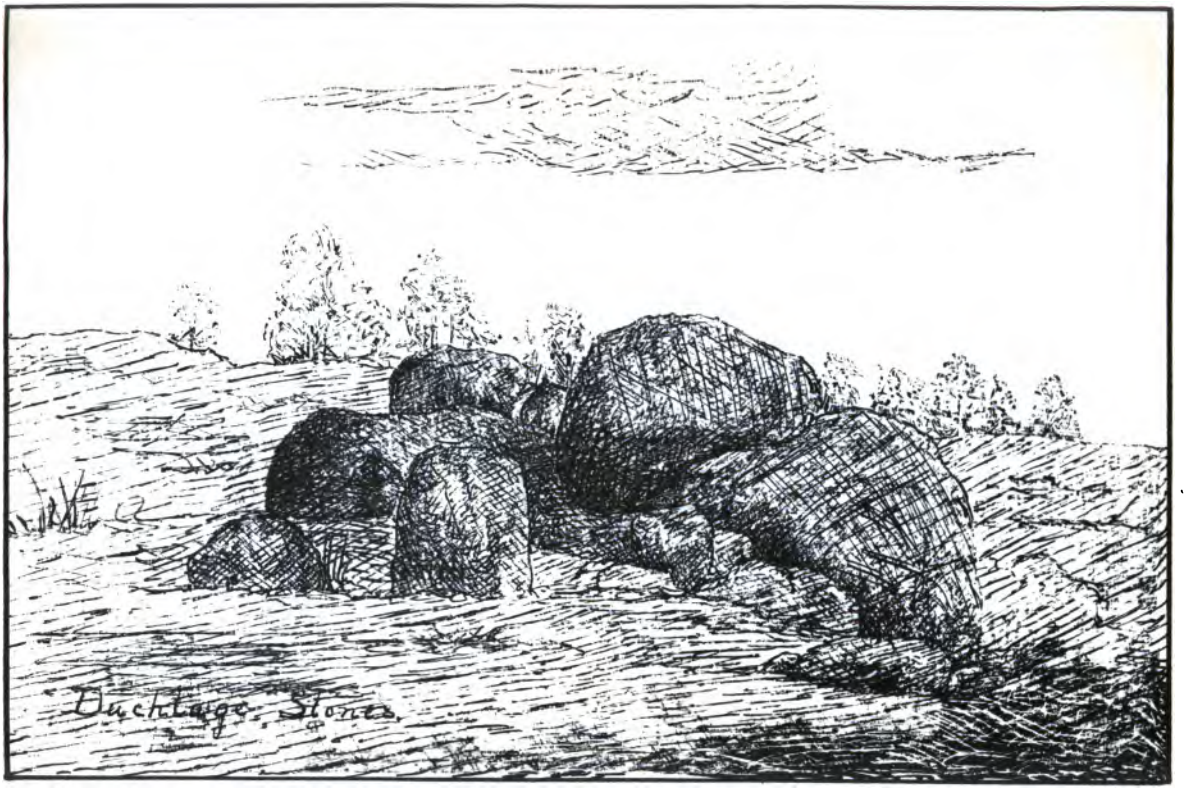
Duchtage Stones

STIRLING

NATURAL HISTORY

AND

ARCHÆOLOGICAL SOCIETY.

TRANSACTIONS, 1893-94.

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STIRLING NATURAL HISTORY AND ARCHÆOLOGICAL SOCIETY.

The annual meeting was held in the Y.M.C.A. Rooms, Allan Park, on Tuesday evening, 17th October. In the absence of the President (Rev. Mr Goldie), Mr Daniel Ferguson called upon Mr James Campbell to preside, after which the secretaries' and treasurer's reports were read, and office-bearers elected for the ensuing year.

SECRETARIES' REPORT.

The past session has been a very successful one in the history of the society. The number of members has increased and the meetings have been well attended. The roll at present contains the names of 63 members and 16 lady associates. The papers and reports read were all of local interest, and by members of the society. They were nine in number, six in the department of Natural History and three in that of Archæology and local history. The reports by Col. Stirling and Mr Kidston on the local flora, and by Mr M'Lellan and Mr M'Dougall on the Conchology of the district, bring down to date the results of the Society's investigations in these departments. Colonel Stirling read a paper on the Rain-fall of Stirlingshire, which is the first work in the science of meteorology recorded by the Society. A number of interesting exhibits both in natural history and archaeology were shown at the meetings. Mr Hutchison's lecture on "The Standing Stones and other Rude Stone Monuments of Stirling District" was illustrated by photographs of the stones shown by lime light by Mr Kidston. These photographs are being reproduced and will illustrate the forthcoming volume of the transactions. The volume is expected to be ready at an early date. The collection in the Smith Institute has received several additions during the year, and more cases are required whenever the state of the funds warrants their purchase. The members of Council who retire at this time are Rev. J. E. H. Thomson, and Mr Lowson, and Messrs Alex. Moyes and Jas. Todd are recommended to fill the vacancies.

OFFICE-BEARERS FOR 1893-94.

Honorary Presidents—Colonel Murray of Polmaise, Col. Stirling of Gargunnock; President—Rev. W. F. Goldie; Vice-Presidents—J. A. Harvie Brown, Dr Galbraith; Joint Secretaries—Robert Kidston, David B. Morris; Treasurer—Daniel Ferguson; Librarian—James Sword; Auditor—John Allan. Members of Council—And. M'Lellan, J. B. Sinclair, J. W. Campbell, James Ronald, Alexander Moyes, James Todd.

TREASURER'S REPORT.

Abstract of treasurer's account for year ending 17th October, 1893.

INCOME.

Balance from last account,	£7	4	2
Annual subscriptions received,	12	1	0
Transactions sold,	0	18	0
	£20	3	2

EXPENDITURE.

Paid printing account,	£2	13	0
Rent of room for meetings,	1	2	6
Messrs Short & Fairful, joiners for making new cases,	9	0	0
Balance at credit of society in National Bank,	7	7	8
	£20	3	2

OLD RECOLLECTIONS OF STIRLING.

(By Dr Galbraith.)

Having been asked by the Council of the Natural History and Archæological Society to write for them a paper on my old recollections of Stirling, I consented all the more readily as I had myself for some time entertained the intention of committing them to paper in the hope that my reminiscences of old scenes and long past events might prove interesting to some of the generation that has grown up since the time to which my memory now carries me back. A greater desire than formerly existed seems to have arisen in these days to know something about the past history of the place in which the inquirers dwell and are interested in, and I consider it a sort of duty incumbent on those who have been graciously spared to reach an advanced life and who have the leisure and anything of the ability for the task, to try to gratify this desire by putting down on paper their old recollections. Events which at the time of their occurrence seemed too trivial and commonplace to be recorded, in the course of time acquire an interest, even an importance, as illustrating local history, that did not originally attach to them. Alterations in buildings, and other changes in the

physical features of a place, as remembered by the older inhabitants, are also not devoid of interest. With these ideas I have set down my old recollections as relating to Stirling, and now present them before the society, hoping that, however wanting they may be in any other merit, by the mere flavour of age that invests them their record may excite the kind of interest I have referred to. My esteemed friend Mr George Mouat, whose recollection went back a number of years further than mine, was approached by the secretary with the same request that was preferred to me, but he, for sufficient reasons, did not see his way to acceding to it. At the same time he kindly offered to give me any help he could in my performance of the task. I gladly availed myself of his offer. Mr Mouat's memory as to past events and old dates was marvellously acute, and I have been much indebted to him for assisting mine in some instances, where, as a consequence of long absence on foreign service, with no one from the old town with whom to talk over times past, my own recollection had become a little indistinct. I had hoped that my much esteemed friend would have been spared for years yet to enjoy his robust old age, but alas! while I was jotting down these reminiscences he was quite lately, as you all know, removed from among us after a very few days' illness, and thus another link with the older generation has been snapped. Mr Mouat had nearly, completed his 90th year. Since his death I have, when necessary, availed myself of the assistance of Mr Leslie Neilson, who, although he has not attained to the patriarchal age of Mr Mouat, as I hope he will yet do, goes back a number of years further than my memory carries me, and is very clear in his recollections. Mr Neilson is also an instance of active vigour at a pretty advanced age, being still quite equal to his duties as a compositor in the office of the *Stirling Journal.*

With these preliminary observations I now proceed *in medias res.* My earliest recollections of Stirling begin with the upper part of the rocky height on whose slopes the old town is clustered, for, after a short stay in lodgings in Broad Street, my father, on retiring from the army about the year 1821, and coming to settle down in my mother's native town, took for his first residence what is now the Castle Hotel, at that time simply a dwelling house. It has been somewhat altered and a good deal added to it since to adapt it to the purposes for which it is now used. Owing to the steep way in which the ground falls away behind, this building is of no great height in the front, but on the other side

it presents a considerable elevation, and what made it notable viewed from that side was its remarkably long staircase window.

The first event impressed on my childish memory was the sudden falling of the Castle flagstaff. I do not believe that I actually saw the falling of the flagstaff, but I well remember being startled by the loud report that accompanied it. This collapse occurred during perfectly moderate weather, and was attributed to the wood having become decayed at the base. I believe a similar catastrophe has happened on two several occasions since that time. Once in a great thunderstorm on a Sunday in the month of February, during divine service, when the congregations were naturally extremely alarmed. Again, a little over 40 years ago, in a great storm of wind. After one of these collapses the then Lord Abercromby tried to move the authorities to have the flagstaff shifted to the Nether Bailey, where it was supposed it would be more conspicuous as seen from Airthrey Castle. Fortunately, however, this was successfully resisted by the Town Council, who brought influence to bear on the Hon. Fox Maule, then member for Perthshire, and Secretary at War, and at the same time Lord Abercromby's son-in-law. My impression is that the mast I heard fall was a much taller spar than that on which the Royal Standard and Union Jack are now from time to time displayed. The Esplanade, except for the comparatively recent addition of the statue of King Robert Bruce, presents the same appearance now that it did in these earlier days. One of my associations with it is seeing the soldiers being drilled there in the manual and platoon exercise with the aid of a fugleman. This now obsolete functionary was one of the men who stood a few yards in front of the company or battalion, also facing the drilling officer. He was provided with a musket from which, to lighten it for handling, the barrel was removed. At each word of command the fugleman threw himself into a particular attitude, at the same time manipulating his piece in an exaggerated way so as to attract the attention of the men behind, in order that they should go through the motions with their firelocks simultaneously and in accurate time. Needless to say that this antiquated custom has long ago fallen into desuetude. Entering within the precincts of the Castle, and passing through the archway that pierces Queen Anne's Battery, three or four casemates may be observed on either hand, constructed n the base of the rampart. They had long been

used apparently for the storage of lumber. In the first of them on the right hand long stood a low truck, which was pointed out as the "hurdle" on which Baird and Hardy, who were beheaded for high treason in 1820—the last individuals in the kingdom who so suffered—were drawn to the place of execution in Broad Street. A tradition in connection therewith handed down to us boys was that in passing thither they sang the last of the five hymns that are inserted after the paraphrases in the Scottish Bible—"The hour of my departure's come." On the left hand, in rear of the battery, the ground was laid out as a garden, which was abundantly stocked with useful vegetables, oldfashioned flowers, and homely fruit-bearing trees and bushes. It was for many years cultivated by Major Peddie, the Fort Major, who was a skilful horticulturist, and kept it in admirable order. I recollect that his gooseberries were of particularly fine flavour. Lying a good deal below the level of the causewayed roadway, bounded on one side by the rampart of the battery with its quaint little lookout turret at one end, and on the opposite by a terrace dominated by the eastern face of the Palace with its grotesque stone figures projecting from the wall, this plot of ground with its rich varied vegetation, formed, in my eyes, a most attractive feature in this part of the old fortress. After the death of Major Peddie the garden was given over to the use of some of the staff non-commissioned officers, under whose want of fostering care it soon began greatly to deteriorate. More recently it has been transformed into a tennis court. I never take a passing glance over the wall without sadly contrasting the bare arid aspect of the carefully smoothed level with the wealth of greenery and varied colour it once presented, and lamenting that such a charming nook has been so defaced, and one of my most pleasant associations with the old Castle for ever obliterated. In the Palace Square there have been no material alterations. Mr Whitehead, Barrack-master, occupied the small house on the right of the entrance gateway. On his death, Major Peddie moved into it from the apartments he had occupied in the Palace, to which access is had by "the Long Stair." In that house the Major, who had been a dweller in the Castle for half a century, died in 1871 Quite recently the Canteen has been removed from its old position in the basement of the Palace to a more convenient and better lighted one, arranged for it in the old Parliament House, in the upper square which is utilised for soldiers' barracks.

I need not enter into the question now being discussed, of the restoration of this part of the Castle to something like its original condition, when it was used for the meetings of the Scottish Estates, further than to say that no one can desire that the number of the soldiers quartered in the Castle should be diminished, as apparently would necessarily be the case were the accommodation now provided for them in the old Parliament House done away with. It is satisfactory, however, to know that something is to be done in the way of improving the Royal Chapel, lately used as a store, by cleaning it out, bringing back the arms that were taken away to the Tower, and throwing it open to visitors. The Royal Chapel, which occupies nearly the whole of the western side of the upper square, was long used as the armoury, where were stored, I know not how many stands of arms. After these were removed to London some 40 years ago, the Chapel was for some time used as the Regimental School, latterly, as I have said, as a store. There were also to be seen in it some old military curios, tilting spears, Lochaber axes, pikes, &c., now exhibited in the so called Douglas Room. I say so called, for as is well known, this, one of the oldest parts of the Castle, was destroyed by fire nearly forty years ago, only the small apartment in which, according to tradition, the murder of the Earl of Douglas was perpetrated by James II, having been providentially spared. I understand that the present new structure was designed by Mr Ruskin. It is no doubt in very correct taste, but it can never for me worthily replace the building that was destroyed, where in the larger apartment, out of which the Douglas chamber opened, I had participated in the hospitalities dispensed by Sir Archibald and Lady Christie at the evening parties they were in the habit of giving while as Deputy Governor, he occupied the Douglas apartments. The fire occurred some time during the Crimean war when a militia regiment was stationed in the Castle. Some of the officers had quarters in the Douglas apartments, and in one of these, occupied by a young officer named Fawkes, the fire is said to have broken out. When I joined the 71st Regiment Highland Light Infantry, I found Mr Fawkes a Lieutenant in that distinguished corps. From his former associations with the destructive combustion of this portion of the Castle, and in allusion to the notorious conspirator of Gunpowder Plot, his regimental sobriquet was Guy — "Guy Fawkes." Formerly a Deputy Governor resided in the Castle

in this historic part of it. The titular Governor was, at the time I write of, an Irish Peer—the Earl of Donoughmore. He was non-resident, and his office a sinecure. The first Deputy Governor I recollect of, although I was too young to have any personal knowledge of him, was General Grahame. He died in 1831 and I have a very distinct recollection that the day of his funeral was one of very deep snow lying on the ground. I have been told by my sister that she remembers General Grahame calling on our uncle Dr Galliers, with whom she lived, and telling him of a skeleton that in the course of some drainage or other operations had been dug up just under the window of the apartment where the Douglas was murdered, out of which the body is said to have been thrown. Being of a large size it was taken to be that of the murdered Earl, who was a very tall man. My old friend Mr Mouat, however, was of opinion that the finding of the skeleton was at a considerably anterior date, and I believe in this he was correct. After an interval of several years Sir Archibald Christie came as Deputy Governor. He was a very genial and popular man. He had seen service in the Peninsula, and had one side of his face much disfigured by a wound from a charge of grapeshot received in one of the engagements there. After his death no successor in the post of Deputy Governor was appointed.

The Militia Store which stands at the foot of the Esplanade was formerly the Grammar School. As may be readily seen, a considerable addition to it has been built for storage accommodation. The rector of the school was Dr Monro, D D., I suppose, although we Grammar School boys never regarded him as being a clergymen. On the contrary we were very irreverent in calling him "Skliffy," a nickname due, I believe, to a peculiarity of gait as he shuffled about in his slippers. In those early days sobriquets were very commonly used in Stirling — almost every man in any way notable, high or low, was distinguished by a nickname. Dr Monro had a reputation of being a very erudite man, and I believe he was especially skilled in Gaelic literature, but at the time I entered the school any energy he had possessed as a teacher had evaporated, and he had fallen into indolent ways. Frequently he was out of the school for some time, engaged, as we boys said and believed, in feeding his ducks in the back yard. The apartment on the ground floor was the schoolroom, one end of which the Doctor reserved for himself,

the "helper" superintending the junior boys at the other end. The Doctor from time to time made a visit of inspection to our end of the school, and I must say he was not so entirely deficient in energy but that before returning to his own department he usually distributed a few vigorous scults with the tawse among those boys whom he found not up to the mark with their lessons. The Doctor, who was unmarried, lived in the upper part of the house, and there also resided his brother, Mr Colin Monro, editor of the *Stirling Journal*, a widower, I think, with a son and two daughters. A number of the parents, dissatisfied with the Doctor's *laissez faire* management of the school, withdrew their boys from it, and set up a private classical school with the assistant, Mr Warden, who for some reason was giving up his situation in the grammar school, as master, so that I was only one year at the grammar school. At the great Ecclesiastical Disruption in 1843 Dr Monro was appointed minister of a vacant charge somewhere in the north, the incumbent of which had "come oot," and there I believe he died. The open space in front of the grammar school was bounded on the south by a row of one storeyed thatched cottages (whose occupants bore no very good reputation) running from the head of the Castle Wynd to the entrance into the Valley. They were removed when the new Cemetery was extended in this direction, the present parapet wall and railing being erected on their site. The Valley, now, as every one knows, laid out in what is one of the most picturesquely situated cemeteries in the Kingdom, perhaps in the world, was in those days a pretty rough place. The boundary on the east was a continuation of the wall running behind what is now the Fever Hospital to meet the wall on the Back Walk, thus shutting off the old Cemetery from the Valley and the Ladies' Hill. The western boundary was also a wall on the site of the present existing parapet wall and railing. On the north side, about where the monumental Pyramid has been erected, was a house with a garden behind it extending down into the Valley, the front of the house being close to the wall that supports the Esplanade. The Valley suited the grammar school boys very well for their games of shinty, or club as we called it, and football, the latter not the scientific life and limb endangering pastime which of recent years has taken such hold of the British race both at home and abroad, but a much more simple, and, if a little rough at times, a safe enough game for the boys, played with good temper, and without

the coarse language that seems to be the usual concomitant of the modern game. The periodical horse markets were held in the Valley, and frequently the open space in front of the school was also utilised for showing off the paces of the steeds to intending purchasers, a source of much interest and amusement to the boys.

But the most pleasant of my associations connected with the Valley is the recollection of the yearly visit made to it by Ord and his travelling equestrian troupe. Great was the jubilation when the word went round, "The Fules is comin'," for the entertainment being given *al fresco* was free to all, and was well patronised by all classes of the community. The locality was a most suitable one, where the sloping side of the Ladies' Hill, from which in olden times the tournaments that were held in the level space were viewed, rising like the ascending seats of an amphithreatre, afforded ample and convenient vantage ground from which with no hindrance to enjoy the sight of the performance. This year the spring and summer we have enjoyed have been quite exceptional for abundance of sunshine and absence of rain, but looking back to a succession of cold wet summers I am tempted to say that surely in the days "O' lang, lang syne, the sun shone brighter far than it's iver dune sin' syne," for I have no recollection of this open air entertainment, which always took place in a summer evening, having been marred by wet weather. For years past it would have been very difficult to select any summer evening on which, even if it were not necessary to seek the protection of a waterproof or umbrella, one could stand or recline on the grassy sward without imminent risk of contracting rheumatism or catarrh. *Tempora*, which can bear the translation "seasons," *mutantur*, and I grieve personally that I must say, *et nos mutamur in illis* Let us hope that the bright season we have had is the prelude to a cycle of fine seasons such as I picture to myself as common when I was in the hey-day of youth. Possibly, however, I am looking backwards through tinted spectacles, and it is "distance lends enchantment to the view, and robes the *seasons* in their azure hue."

A ring was staked off in the centre of the valley, sawdust laid for the horse track, the tight-rope and slack-wire set up on suitable poles, and the performance went on. In the centre was erected a platform for the purpose of exhibiting a competition of two or three boys, called up from the crowd, in the rapidity with which they could dispose of scalding porridge

cooked on the spot, a part of the entertainment that created much laughter among the spectators. There being no charge for admission, in order to raise funds for the maintenance of the troupe, recourse was had to the sale of lottery tickets. These, sixpence each, were disposed of among the crowd by some of the company. The chief prize was a boll of meal, one worth taking a chance for. The other articles that were given as prizes, of which those that chiefly present themselves to my mind are pieces of cheap cotton print styled gown-pieces, although I suspect they would make but scanty dresses, were displayed and called over one by one by the master of the ring, affording the clown opportunities of making various well worn but ever appreciated jokes, as he repeated the name or description of the article after his master. The last act in the ring was usually "Billy Button's ride to Brentford," enacted by the clown, who brought the performance to an effective conclusion by at last bursting out of the circle, and cantering away down the town on his pony.

Although not given to extol the olden at the expense of the present times, I am inclined to think that our peaceful and less excited manner of life with its old fashioned quiet ways was a more enjoyable one than that which now rushes on amid hurry and scurry and haste, with the excitement of railways and telegraphs and telephones, however much these may contribute to the conveniences of life. I am sure we enjoyed the gratuitous exhibition given by the "Fules" in the valley, of course none the less acceptable for it being gratuitous, on a calm summer eve with more satisfaction and zest than the more elaborate performance of the gaudily appointed and brilliantly lighted circuses to be found in our larger cities, or of the spacious travelling circus tent with its imperfect and malodorous paraffin illumination that year after year is pitched for a night in the Spittalmyre ground. And surely there was something of the classical in the open air performance on the old tilting ground with its unrivalled picturesque surroundings, reminding one of the descriptions of the exhibitions in the theatres and amphitheatres of the ancient Greeks, which were also given *sub frigido Jove*.

In the days I write of, and until I left Stirling on entering the military service, the part of the Back Walk, where it is level, from about the wall of the old cemetery to where it begins to slope down at the western extremity of Snowdon House grounds, was a favourite spot for promenading on the fine

summer afternoons and evenings, resorted to by the better classes, and especially by the ladies, who, besides the exhilarating influences of the fine fresh air, and of the extensive panoramic view, had the additional attraction of enjoying the society of officers of the "four company depôt" which then garrisoned the Castle. What a change has taken place in the habits of the community! They have entirely deserted the incomparable Back Walk, the like of which in any other town in the kingdom would be regarded as one of its most valued possessions, and, although strangers are always greatly impressed with its unparallelled picturesqueness, now, except on Sundays, when in fine weather, after the "skailin'" of the kirks, many of the worshippers take a breather round the back of the Castle to refresh them after inhaling the confined air of the sacred edifices, only a stray frequenter of the Walk is to be met with, some old pensioned off residenter dandering along. "drooping, woeful, wan, like one forlorn." Within the grounds of Snowdon House may be noticed a hillock overtopping the wall, of which its rocky side forms a part. I recollect when this, the Crandy Hill, as it was called was not enclosed by the wall, but was open to the Walk. Dr Doig, the proprietor of Snowdon House obtained leave, I presume from the Department of the Woods and Forests, to take it into his grounds on the plea that it was a resort of loose characters at night, but in so doing, he certainly took away one of the amenities of the Back Walk by day. As to the name of the little height, it is said that properly it should be Grandee Hill, so called because in ancient times the notabilities of the town used to meet there to show off their finery of dress, the men with their cocked hats, powdered wigs, and scarlet cloaks, their wives and daughters in their brocades and satins, with their hoops and furbelows, and other bravery of female attire of those days.

A most notable and widely known frequenter of the Back Walk during a long series of years was Blind Alick, who, with somewhat bent figure, wearing an ordinary tall hat and long great-coat, his garments patched and threadbare, might there any day be seen as he shuffled slowly along, carrying in his hand a large door key, which he shook to and fro, and deprived of which he seemed to be quite unable to find his way. His surname was Lyon. There were in Stirling two families of Lyons, called from the colour of their hair, Red Lyons, and Black Lyons, to the latter of which Blind Alick belonged. I recollect a member of the

other branch, Tickler Lyon, with a son Young Tickler, as he, Old Tickler, used to make ridiculous exhibitions of himself in the street when in one of his drinking fits. I believe Alick was blind from his birth. He lived in a close next to the Water Reservoir, now removed, at the St John Street corner of Spittal Square. What particularly attracted the attention of strangers to him was his marvellous verbal acquaintance with the Holy Scriptures. He not only knew them word for word, but he could repeat any verse of any chapter, if the numbers of the verse and chapter were given him. Strangers tried to puzzle him by giving the number of a verse not to be found in the chapter named, but Alick could never be misled in this way. His knowledge of the Bible had been gradually acquired at school from the boys reading the verses to him. My old friend, Mr Monat, had assisted in this way in his school days. My uncle, Mr Gibb, a native of Stirling, who settled in business in Glasgow, told me he had also been one of B ind Alick's instructors. Alick did not frequent the streets, only on Saturdays, finishing his perambulation of the Back Walk at its lower extremity, he made his way to his lodging by Port Street, King Street, &c., in order that he might call on his way at various business establishments where he received a small pecuniary dole. Provided with several snuff boxes, he also called, not only at a little tobacco ist's shop, "Snuff Wricht's," which was in existence till some twenty years ago it was merged into the premises now occupied by Messrs Mengies & Co., but also at various grocers' shops, snuff being a commodity retailed by the grocers, to get his several mulls replenished. In his earlier days, Blind Alick was a regular attender at public worship, sitting in what was called the "range' in the East Church, a railed-in raised platform on each side of the pulpit appropriated to the accommodation of the infirm and poorer members of the congregation. Latterly, however, he sadly neglected his religious duties, and earned for himself an indifferent reputation notwithstanding his absolutely perfect knowledge of Scripture. Certainly, as I have myself witnessed, he gave way to violent fits of impotent rage and awful cursing when teased by the schoolboys who began to take a wicked delight in tormenting him by taking away his key. "A fearful thing it was to hear how then the old man *swore*" I am glad to think that this diabolical treatment of the old blind man was not practised by the schoolboys of my

time. Blind Alick died in 1888, being one day found dead in his bed.

As I have mentioned before, the old churchyard adjoining the churches was shut off by a wall from the Valley and the Ladies' Hill. It did not then present the trim orderly appearance it now does, but, if somewhat rough, it was, perhaps, fully as picturesque with its old-fashioned gravestones disposed with little attention to regularity, some of the more ancient of tabular arrangement with the slab supported on short pillars. A memorial stone in the form of a cross, of which there are now so many beautiful examples in the Cemetery, was, of course, quite unknown, and would have been regarded as an indication of rank popery. The oldest stones, so far as I can make out, are two that both bear the name of Gibb. One has the date of 1525, the other, lying close to it, that of 1579, no doubt both originally belonging to branches of the same family closely connected. They both lie flat on the surface of the ground. The less ancient of them marks the burial ground of my mother's family, and now belongs to a cousin on the male side. It has carved on it, besides the ancient date of 1579, the name of James Gibb, my grandfather, the date of his death in 1810, some initial letters along each side, the Gibb arms—a spur and hand holding a broken spear—also, a hammer, a small pick, and chisel. From these latter devices I conclude that my maternal ancestors at that remote date were decent handicraft burghers. The stone was one of those that stood on pillars. In being taken down, on the re-arrangement of the Cemetery, to be laid flat on the ground, it was accidentally cracked across; the two fragments were then set in a socket of stone for the sake of preservation. The other older stone, probably also originally stood on legs. It bears, besides the ancient date, the name John Gibb, the date of his death, 1814, and the Guildry emblem, the figure 4. I do not know who now claims this stone. Not far off is an upright standing stone elaborately carved on both sides, with a good deal of lettering on it, but much defaced, that has an appearance of antiquity, but no date can be made out. From its general character and style of carving, I take it to be much more modern than the two I have been describing. It bears the name John Service, the date of whose death is obliterated. In front of it lies a flat stone with the name of John Burd of Forthside, died 1831. One curious feature of this old tombstone is that both sides are pitted as if with bullet marks, possibly the result of some war-

like skirmish of which no record now remains. It was while I was abroad, perhaps nearly 40 years ago, that the Cemetery was extended by removing the wall on the west, and taking in the Valley, the Ladies' Hill, and the garden ground behind Valley Lodge, now the Fever Hospital, and the whole ground was laid out in the exceedingly tasteful and attractive way that has made the Cemetery to be one of the chief beauties of the City of the Rock. While the older portion was being improved, several of the gravestones were shifted so as to present a greater appearance of regularity, and those on pillars laid flat on the ground, the alteration, although conducive to greater uniformity in arrangement, being in some instances no longer accurate in defining the exact locality of the interment.

The Cemetery leads me to notice funerals and some of the changes that have taken place in funeral observances in my time. In the olden time the convenience of a hearse was not made use of, the coffins being borne to the place of interment on the shoulders of the men provided by the undertaker, or in the case of persons of lower rank carried on "spokes." The coffin, or, when the mortuary vehicle was introduced, the hearse, was preceded by the saulies, who were a kind of hired mourners. These were six in number, according to Mr Monat, although my recollection gave me the impression that there were only four. They walked two and two, attired, of course, in black, with knee breeches, two in cocked hats of much the same shape as those worn by our Town officers, the others in a kind of skull-cap with four angles, like what I have seen worn by ecclesiastics in some Roman Catholic churches abroad. Each saulie carried a black baton. For all persons deceased of any standing in society one of the church bells was tolled. This old custom has occasionally been observed in quite recent years at the funerals of old residenters. Formerly it was the custom for all who attended a funeral to wear the narrow bands of lawn stitched in the cuffs of the coat called "weepers," and every man kept sets of weepers for this purpose. Near relatives wore them for several weeks, at first plain, then covered with crape as a kind of "second mourning." Gradually this emblem of mourning has fallen into disuse. First they were displayed at the funeral by relatives and intimate friends, then only by the former, and now they are rarely to be seen. In attending a funeral crape on the hat was *de rigueur*, and in the case of mourners there was a great display of it, now a simple cloth hatband seems not always to be con-

sidered necessary. Formerly at all funerals for those attending and going into the house of mourning refreshments were provided as a matter of course. I am told that in olden times the orthodox custom was to have three rounds, first one of rum secondly one of whisky, and the third of wine By degrees this diminished to a course of whisky and wine, at last to one of wine only. This I have seen handed round at funerals of quite recent dates, although very few partook of the proferred hospitality. When the glasses and cake, mostly shortbread, had been served round by his men, the undertaker putting his head in at the door announced "The Rev. Mr So-and-So," naming some minister present, "will ask a blessing." A prayer was then offered up, all standing, ostensibly to ask a blessing on the refreshments with the decease brought in incidentally, but in reality a prayer suited to the mournful occasion of the meeting. Afterwards a similar prayer was given by another minister, if more than one was available, by way of returning thanks. It was customary for the relatives to dine together in the house of mourning after the funeral, the ladies of the family, however, not appearing at the table. These old-world hospitable customs were no doubt intended for the alleviation of the grief of the mourners.

The interior aspect of the churches (the East and West Church), bore testimony to the absence of any æsthetic feeling, and to the entire want of the appreciation of the beauties of ecclesiastical architecture, that characterised our forefathers from post-reformation times. Their only aim seems to have been so to adapt to the plain Presbyterian forms of worship, churches constructed to accord with the pompous ceremonial of the Romish ritual, as to provide accommodation for as numerous congregations as possible, with entire disregard to the architectural arrangements and graces of the edifice. To this end both the churches were encumbered and disfigured with heavy galleries, for the support of which some of the columns of the aisles had been sadly mutilated. I do not know if the mullions had suffered damage during iconoclastic outbreaks, but those that, until its restoration, formerly divided the window spaces in the East Church, and those still remaining in the West Church, could not represent the original window tracery. When the East Church was restored as just mentioned, about five and twenty years ago, to something like its pristine condition, and cleared of its disfigurements, mullions to accord

with the style of architecture replaced the other tasteless structures, and then also, greatly to the adornment of this most beautiful example of Gothic architecture, memorial stained glass windows began to be put in. I take pleasure in the thought that I was the first to set the example in this respect with a window to the memory of my father, who filled the chief magisterial chair of this ancient Royal Burgh for the long period of 13 years.

In the East Church on the wall that formed the west end of it, since taken down and replaced by the Magistrates gallery, was the pulpit, entered by a door in a scooped out hollow that always reminded me of the interior of a kitchen roasting-oven, which was reached by a stair from the small vestry in the passage between the two churches. Below the pulpit, in orthodox fashion, was the precentor's desk, and on each side the "range" for the poor already referred to. The result of this arrangement of the pulpit being on the same end as the doors of the entrance was that those who came early to church, when seated, enjoyed the welcome distraction of seeing all who came later as they entered. By the way, in those days it was rather correct for men to put on their hats in leaving just before they reached the door, and not to uncover until they had fully entered coming in, the remains no doubt of a stern protest against any superstitious reverence for the building. The custom of keeping on the hat in church, which to an Anglican at least seems very irreverent, may any day be witnessed in strangers visiting the churches here. It has often occurred to me that there should be at the door a printed notice, such as, if I am not mistaken, is put up at St Giles' in Edinburgh, that visitors are expected to take off their hats on entering the church. Surely the house of God demands as much reverential respect as a man's drawing-room receives. On the occasion of a baptism, a brass dish with the water, very much resembling that often seen dangling over a barber's shop—Mambrino's helmet, in fact—was hung on the pulpit with a napkin laid beside it. The father sat in the "range" (I speak of the East Church), until the christening ceremony was to be performed, when he was joined by the mother, with perhaps one or two of her friends from an adjacent pew, and taking his baby, he stood up to be "tairged" in full view of the congregation on his parental obligations. The front central seat of the galleries was reserved for the Magistrates and Town Councillors who chose to attend, sitting in one church in the forenoon in the

other in the afternoon. My father having, although originally an Episcopalian, conformed when he settled down in Stirling to my mother's form of worship, regularly kept up the custom of marching in state to church on Sunday. The procession was formed in front of the Burgh Buildings in Broad Street, consisting of the Hospital boys in their somewhat antique fashioned blue uniform, under the charge of the guildry officer in his official dress of green and gold, the boys of the Highland Society (a society since extinct), in highland costume under their officer, the four town officers in their rich picturesque scarlet uniform, each carrying his halberd, the town drummer similarly attired with his staff of office, lastly the town councillors, bailies, and provost, as many as made it convenient to attend. My father always went thus in state, even if he should happen to be unsupported by any of his council. The provost sat in the gallery pew on a more elevated seat with his bailies on each side. For each of these dignitaries there was a large bible, which must be still in existence, lettered on the cover provost, 1st bailie, 2nd bailie, &c. They were moreover during the season of the flowers provided each with a large bouquet culled from the adjoining bowling green garden, plentifully garnished with mint, "apple-ringy," and other fragrant, if somewhat strong scented herbs, intended no doubt to dispel any drowsiness that might steal over the hearers during the long sermon. My father always brought his bouquet home in the afternoon. At the close of the service the minister made a bow to the provost as one of his chief patrons, who returned the salute in a similar fashion. The church services were decidedly lengthy in those days, a great contrast to the much abbreviated services now considered sufficient to meet the requirements of public worship. The prayers were deliberately lengthy, and the long standing was certainly wearisome. The sermon rarely, if ever, occupied less than an hour. Often when the hour had expired the preacher had reached only "thirdly," after which had to come "a few words of application," "lastly," "to conclude," "one word more," and so on; by which the discourse might be spun out to one-third more than the hour. The interval between the forenoon and afternoon services was thus not unfrequently seriously curtailed, leaving very scant time for a hurried rush home for some light refreshment before returning for the second "diet" of worship. There being in those days no provision for artificial heating of the churches, which

were consequently, except in summer, cold and very damp, these prolonged services could not but be very trying to those of weakly and sensitive frames. But I believe that our ancestors representing the survival of the fittest were a more robust race than those of the present generation. In the short winter days the light had failed before the congregation was dismissed, and then it was customary for the precentor to "read out the lines" of the last Psalm, or Paraphrase, that is to say, he read out in a loud sing-song tone each two lines of the verse to enable the people to join in the singing. This gave a very quaint turn to the diapason of praise. It was considered a duty then to attend at both Sunday services. "Half Timers," except in a case of sickness or other unavoidable cause of prevention were almost unknown. To take a walk on Sunday, or rather the Sabbath Day, as it is still very generally called in Scotland, was looked upon as a most audacious act. Many good people, among them relatives of my own, kept all the window blinds drawn down on Sunday. Although we may differ entirely from these worthy people as to their way of observing the Lord's Day, and think that it calls for a more cheerful mode of commemoration, we cannot but respect the high motives that led them in such solemn fashion to keep the day holy to the Lord. The half yearly celebration of the Communion or the Sacrament, as it was called, was made the occasion of much religious observance, and church attendance at what were called the "Preachings." The Fast Day observed on the preceding Thursday was regarded as, if possible, an even more holy day than the Sabbath. It was looked upon with no favour by the young folk, who would have preferred even lessons and going to school on that day. They had a special grievance in the forenoon service. This was commenced in the usual way by the minister of the church. After the customary long prayer he gave a second psalm, during the singing of which he retired from the pulpit and a stranger clergyman slipped in, who then started the service *de novo*. This custom, the origin or meaning of which I never heard explained, was regarded by us as a grievious imposition on our powers of endurance. On Saturday there was an afternoon service, in retiring from which intending communicants had distributed to them the small leaden tokens that ensured their admission to the Lord's table next day. That was a day of prolonged religious services. The congregation assembled at half-past ten, being half an hour earlier than

usual, and from that time, with the usual Sunday services and the successive special services at each "serving of the tables," there was no intermission until about five o'clock. Of course very few remained continuously in church during the whole of that time, and the young people came home after the morning service, as well as many others who did not intend to communicate. Then came the evening service at six o'clock, the only regular evening service held throughout the year. The unwonted hour of meeting and the solemnities of the day then attracted large congregations, so that every pew was packed, and often the aisles were occupied by those who failed to find sitting-room. The young folk liked attending this evening service for the novelty of it. The church was lit with candles on brackets and, (that is the East Church), in a large brass chandelier hung from the ceiling, and it was a regular source of entertainment for us to watch the guttering of the candles in the heated atmosphere and the dropping of the melting tallow on the Sunday clothes of those who sat directly under it. On Monday there was forenoon service again, and lastly on that day it was customary for the minister to entertain to dinner the stranger clergyman who had assisted at these services and also his elders. It used to be said, but probably by individuals who had not partaken of the minister's hospitality, that there was usually a very fair consumption of whisky toddy at the Monday dinner.

In more ancient times it was usual at some churches, probably on account of the numbers who flocked to the preachings from the country district, to have service in the open air, what was called a "tent preaching," the prayers and addresses being delivered from a movable pulpit, set up generally in the churchyard. I just recollect seeing such a tent preaching on the green slope surrounding the old Viewfield Place Church, which preceded the present larger and more commodious edifice. There were in Stirling three ministers of the Established Church, the senior of whom ministered in the West Church, the second in the East Church, while the third preached morning and afternoon in each of the churches—usually the same sermon to both congregations—the worst paid man, as is so often the case, doing most duty. When the North Church was built, and opened in 1842, Dr Beith, then first minister, took charge of it. I am not quite certain as to the exact succession of the various ministers I have known in the East and West Churches. The first that I recollect were Dr Wright, as first

minister, who died in 1826, Dr Small, second minister, who died in 1825, and Mr Bruce, who I believe was third minister. I think it was after Dr Small, that Dr Bennie came, a very eloquent preacher, afterwards translated to Lady Yester's in Edinburgh, where his sermons proved a great attraction to the College students of my day. After Dr Wright came Mr Macfarlane, then Mr Cupples. At the Disruption in 1843 the three ministers were —Dr Beith, Mr Cupples, and Mr Leitch, all of whom cast in their lot with the secessionists from the Establishment.

I turn now to the adjacent Guildhall, with its conspicuous statue of the founder, John Cowane, in the doublet and trunk hose of his day, "Staney Breeks," as we always called it, over the porch of entrance. Every Stirling boy had imparted to him the marvellous information that each night when Staney Breeks heard the ten o'clock bell rung from the clock tower of the Burgh Buildings in Broad Street, he descended from his niche and danced on the pavement below. In former times the Guildhall, in the absence of any more suitable place of meeting, was utilised for public assemblages, and social gatherings of various kinds. It was used from time to time for lectures and other popular entertainments. Balls took place there, and sometimes a public dinner, and I have known of a large temperance meeting being held in it, but meetings in that line were by no means common in those days. That long-established society, the Stirling Horticultural Society, had their annual exhibition of flowers and fruit in the hall. The Highland Society, already alluded to, held their annual festival in the adjacent Bowling Green grounds, which were well adapted for the purpose with the stone terrace and the embankment surrounding the green, from which the spectators would most conveniently view the dancing and other Celtic sports, and listen to the thrilling strains of the pipes. The Bowling Green was formerly shut off by a high wall on the side next the church. It is still a very picturesque spot, both for its surroundings and its own intrinsic beauties, but shut off as it then was, it seems in my eyes to have presented still greater charms with its closely shaven lawn, its parterres of blooming flowers, its shrubbery, with the shrubs trimmed in the old fantastic Dutch style of gardening—specimens of which till quite recently still survived—on one side the o'er-arching trees on the Back Walk casting their shimmering checkered shade, on the other the belfry tower and the roofs

of the old churches seen over the high wall. Surely no more charming spot was ever provided for a quiet game of bowls. For this purpose it was much resorted to by the gentlemen of the town, who in those days, as "far from the madding crowd's ignoble strife, they kept the noiseless tenour of their way," seemed to find abundant leisure for such homely pastime, and every fine afternoon could be heard rising from this sequestered enclosure the calls of "Pins to the Kirk," "Pins to the Wall," and other guiding instructions of the skips directing their followers in the management of their bowls. I notice by the way, that a fig tree that long stood trained on the east wall of the Hall, each summer bearing fruit, which in our unsuitable climate never came to ripeness, has now disappeared.

Formerly, and I suppose from the time that the Guildhall was built for the accommodation of the twelve decayed Guild Breither, it had an upper floor, afterwards removed, to the great advantage of the architectural proportions of the quaint old hall. On the upper storey a school was kept by a Mr Fraser—"Fraser's School." In the hall below the scholars of the English school in Spittal Square —"Weir's School"—used to meet for some little time before the annual examination, which, as well as that of the Writing and Arithmetical School—"Patie's"—was held there, preparing for it. These examinations, more properly exhibitions, were carefully prepared for beforehand. I recollect that during that time we assembled at 7 in the morning for two hours' work before breakfast, a severe trial for boys hungering for their porridge. In the Guildhall I first acquired the art of dancing, under the tuition of Mr Allan, a very popular teacher, who married a Stirling lady, a daughter of Mr Laing, who carried on business as a maltster and lived in Park Lane.

At the head of the Castle Wynd, adjoining Argyll Lodging, which has been for many years utilised for the Military Hospital, is part of the front wall of a house, which, becoming unsafe through age, was taken down a number of years ago. I never heard what was its history. It may have been contemporaneous with the mansion built by the Earl of Stirling, and may have formed part of it. Over each of the windows that remain is carved a spiked crown, surmounted by a boar's head. From this armorial device one skilled in heraldic lore could form a conjecture as to the original foundation of the house. In my younger days it was occupied as quarters by Major Forbes,

who was then Barrackmaster. On the opposite side of the street, next to what is now the Lorne Tavern, stood an old two-storeyed house with an inside winding stair, traditionally said to have been where George Buchanan dwelt, noted chiefly for his Latin metrical version of the psalms. He was preceptor to James VI., and in the Castle an apartment, to which a few steps lead up at the end of the terrace which is reached by the Long Stair, is pointed out as having been the schoolroom. Buchanan appears to have been no respecter of persons, for he is said not to have spared the rod on his Royal pupil. The Fever Hospital, further down the street, was known as Valley Lodge, and was for many years occupied by Mr John Sawers, Procurator Fiscal. In those days many of the better class of the inhabitants occupied tenements in the older parts of the town, none of the villa residences which now so plentifully adorn the level ground to the south and west of the Rock, having yet been called into existence, and the only suburban residences being in Melville and Pit Terraces—"The Terrace," as they were then styled—and in Allan Park. For instance in the Broad Street lived Mr Wright, writer; Mr Andrew Hutton, writer (the now commonly adopted title, solicitor, had not then been introduced from England); Mrs Wingate and her son, the late Mr J. T. Wingate, writer; Mr Banks, sheriff clerk; Mr Knight, and various others who held a good position in society. An entire change has since taken place, no doubt in many respects greatly for the better, and these dwellings are now all tenanted by families very much lower in the social scale. Although there were good commercial establishments in Baker Street, King Street, and Port Street, the chief centre of business was Broad Street. There in the old Burgh Buildings were held the Assizes, the Sheriff Courts, the Police Courts, and (until comparatively recently) the Town Council meetings. The Court Room was often used for public lectures. On the street in front at election times was erected the hustings for the speechifying on the day of nomination. There also was put up the scaffold on the rare occasion of a public execution. Broad Street was as it were the Forum of Stirling. Hither the gentlemen, many of them retired officers of the army and men of leisure, resorted in the earlier part of the day to exchange the current news, the chief place of meeting being the shop of Provost Forman, my father's predecessor in the chief magistrate's chair, a very small shop on the north side of the street, where

the Provost carried on business as a bookseller. A little higher up the street are the premises where Mr Warden, referred to in connection with the secession from the Grammar School, carried on his school. We had at first been in rooms down a close at the head of St Mary's Wynd. The school was on the first floor. Over the door leading to the stair was the motto, "*Nisi Dominus Frustra*," which still remains, although the doorway is now replaced by a window in the shop below. As I have mentioned in another paper, on the history of the Episcopal Church in Stirling, the room in which the school was taught appears to have been used by the Episcopalians during the existence of the Penal Laws as a place of meeting for divine service. On the death of Mr Warden, which was to me personally a great loss, for he was a most capable and enthusiastic teacher, Mr Rankine got charge of the school, and some time afterwards we removed to premises in St John Street. Mr Rankine was followed by Mr Sorley. Both of these gentlemen became ministers of dissenting churches, which at the present time would be comprehended in the U.P. Church. Immediately above the school in Broad Street is a courtyard that was convenient for disputes among the boys that had to be settled by a bout of fisticuffs. I recollect being one of the principals in a duel of this kind. I appeared to be having the best of it, for my opponent, a very passionate boy, quite lost his temper, and, leaving off the legitimate use of his fists, picked up a brick that lay handy, and was pursuing me round the court with it, when Mr Rankine made his appearance, and put a stop to the fight. Next day we were both had up for judgment, I being the first culprit examined. When asked if I would let the matter rest and not renew the fight, I consented, and was let off with an admonition. My late opponent would give no such promise, and for his obstinacy received a severe castigation with the tawse. As a matter of fact our quarrel, whatever it was about, was not kept up, and the school friendship went on as before.

The old Burgh Building on the south side of the street has lost much of the connection it once had with both the county and the municipal business since the erection of the County Buildings at Viewfield Place nearly twenty years ago, and, at a later date, the transference of most of the burgh business to the Athenæum Buildings in King Street. The two upper stories of the latter edifice were, I believe, from the time of its erection early in this century,

occupied for the Subscription Library and the Reading Room at a merely nominal rent. Our Municipal Authorities objecting to the climb up Baker Street resumed these two flats, and had them fitted up for their own business. It is questionable whether they have gained much in personal convenience, if the toilsome ascent to the Council Chambers by the long and very steep stair is taken into account. The old Burgh Buildings were the official head quarters of the town officers, of whom there were four maintained in the picturesque scarlet livery of the town. They are now reduced to one, except that at assize time three men hired for the occasion appear with him in the official costume to make a suitable show at the reception of the judges at the railway station. On the town officers, until the modern policeman in blue made his appearance on the municipal stage, devolved the duty of attending to the peace and order of the burgh by day. In my young days the four officers were—Sandy Kerr, called also "Satan Carr"—a very irascible little man—James Jackson, Danny M'Vean, and David Hunter. There was besides the town drummer—also wearing the royal scarlet—who made public announcements, such as are now notified by the bills abundantly pasted on hoardings, blank walls, &c. He perambulated the town with his side drum, halting at suitable intervals to give a roll on it drawing attention to the notice he was about to call out in his most sonorous tones. Of these an announcement that specially dwells in my memory is one, that in the autumn season was not unfrequently heard, of "a fine field of tatties ready for howkin." The first town drummer I recollect was Wull M'Donald. To him succeeded Isaac Spyron, a retired soldier, who held the office when I went abroad. The bellman who latterly replaced the drummer, was not a recognised public official, although some of the patrons of Tam Chalmers, the bellman, who died not many years ago, provided him with a dark blue uniform suit, and a very large cocked hat, for Tam's head was a particularly large one. Its capacious size was an instance of the fact that, as regards intellect, it is not merely quantity of brain matter, but quality in addition, that has to be taken into account.

For the preservation of order in the town by night each male householder, with certain exceptions, was held personally liable to act as one of the Town Guard when his tour of duty came round. For this he was warned by the Town Officer of his district, the town being for this purpose divided into four

districts. Certain classes of the citizens were exempted, such as ministers, doctors, lawyers, schoolmasters, &c. As substitutes for service were accepted, the better class of course did not personally undertake the duty, nor even pay any heed to the warning, knowing that there were always men in waiting, ready to take the place of those who at the ringing of the 10 o'clock bell were found to be absentees. The fee for this substitute duty was one shilling, which was fully called for next day. The guard-room was the apartment at the rear of the old Burgh Buildings in St John Street, since used as the night shelter. Ten men—armed merely with their walking sticks—along with one whom they themselves chose to be Sergeant for the night constituted the Guard. About twice in the course of the night a party of the guard perambulated the principal streets; but Stirling, in those days, was a very orderly town at night and usually the only result of their exploration was the occasional picking up of a drunk and incapable, who was brought to the guardroom. If peaceably disposed he was then and there fined the price of a bottle of whisky for the benefit of the guard—procurable at any hour at a public-house that was at one end of the Jail Wynd—and was then carefully escorted home to his own dwelling. Those who were noisy and troublesome were consigned to the lock-up. Latterly there was much grumbling among the poorer class of householders because under this primitive system of night watching, if they were unable personally to perform the duty, they were mulcted in the same fine for providing a substitute as those of the richer class who were far better able to pay it.

On the weekly Friday market day both sides of Broad Street were lined with the carts that had brought in the country produce, the vehicles resting on the "trams," the horses being removed and stalled. The Butter Market then justified its apellation, for there the farmers' wives and daughters displayed for sale their butter, eggs, and poultry. A thrifty class they were these country lasses of that generation. Those of them who had not the convenience of a cart for conveyance walked in from their respective rural homes, carrying in their baskets not only the produce they had to dispose off, but also their shoes and stockings; for, to save shoe leather, they walked barefooted until they reached the outskirts of the town. Often have I seen these lasses putting on their shoes and stocking at the foot of the Back Walk near Allan Park, where a stream—now converted into a drain—which came

down the Dumbarton Road, was convenient for washing their travel-soiled feet. The same saving custom might be witnessed on market day at the end of the Terrace, where also there was a convenient rill of water, and at other points of ingress to the town. How different now; when fashionably attired ladies, who carry no butter, eggs, or poultry, pay their weekly visit, arriving by train, or accompanying their fathers, husbands, or brothers in their Whitechapel carts, of which they themselves not uncommonly handle the reins!

The May Fair, still held on the last Friday in May, but now only a ghostly shadow of its former self, was in those days a great annual holiday both for the townsfolk and for the dwellers in the surrounding districts, who flocked in until the streets, particularly the lower portions of Broad Street, Baker Street, and King Street, were packed with a dense struggling crowd. Many were the stalls set up in the streets, where toys, sweeties, articles of cheap mercery, &c., were displayed, and readily bought for personal use and consumption, or for treating friends to their "fairing." Some of the favourite articles of confectionery seem to me to be no longer manufactured, such as Gibraltar rock, black man,—a kind of soft toffee in thin sticks enveloped in coarse paper—and gundy—a yellow stick-jaw sweetmeat in cakes of the shape and about the size of tablets of soap. Neither, I suppose, are scrapings of the sweetie pan now procurable. As a considerable quantity was to be got for a half-penny, these were much favoured by schoolboys. Being dispensed without wrapping paper, we generally received them into our bonnets. At many of the stalls were piles of "speldrins," a kind of salted and highly dried fish—haddock, I suppose—which also seem to have disappeared from the market. They were readily bought, and were usually eaten on the spot. Oh, for the powers of mastication and digestion by which one was able thus to dispose of a speldrin without any cause for after regret!

In harvest time the shearers, who came over from Ireland in large numbers, were wont to assemble in Broad Street, armed with their reaping hooks, at an early hour each Monday morning, to be hired by the farmers. That is a thing of the past. Fortunately the reaping machine now renders the farmer independent of such hand labour, which indeed Ireland, with her greatly reduced population, as well as owing to other changes, could not in fact now furnish.

In Broad Street was celebrated the annual cere-

mony of the drinking the King's health by the Magistrates, and the citizens whom they invited to join them. I recollect being taken, when a small boy, on one of these occasions to see this honouring of the Royal birthday from a window in Provost Forman's house over his shop. I think it must have been about the last of these celebrations in the reign of George IV., just before William came to the throne, in whose time I believe this loyal custom was discontinued. The company formed a large circle in front of the Burgh Buildings. Each being provided with a glass; which was filled with wine by the town officers and other assistants, and supplied also with a few almonds and raisins, the town drummer starting from above trotted down the open space, calling out "The health o' his maist gracious Maejesty!" The toast having been duly honoured by drinking off the wine, the next part of the ceremony was to toss the glass in the air, so that being shivered on the causeway it might never be put to any more ignoble use. All, however, did not faithfully carry out this item of the programme. Some, who objected to this wilfully destructive act, handed their glasses to members of the crowd who pressed close behind ready to receive the gift. I believe my father was one of those who thus spared the glass. Others again—a smaller minority—equally averse to such wastery, but of a more saving turn of mind, slily "pooched" the glasses, and took them home to their careful and expectant spouses. Fresh glasses being supplied, a few other loyal toasts were drank, the Militia band stationed a little further up the street playing an appropriate tune after each toast.

The usual monthly meeting of the above Society was held in the Committee-room of the Y.M.C.A. Institute on Tuesday evening, the Rev. Mr Goldie, in the chair. There was a large attendance. Mr Morris, joint secretary, read the minutes of October meeting, which were approved of by the meeting. The name of Mr K. G. Brand was submitted to the meeting and duly elected a member of the Society. Thereafter the Chairman, in appropriate terms introduced ex-Bailie Ronald, who read a paper on "The Old Town Wall of Stirling." In moving the hearty thanks of the Society to Mr Ronald, Mr Shirra referred to the paper as most able and exhaustive, a valuable contribution to our knowledge of the history of our ancient burgh. With Mr

Ronald's researches in other directions we should soon be in possession of material for the best history of Stirling that had ever been written. A vote of thanks to the Chairman concluded the business.

THE TOWN WALL OF STIRLING.

EARLIER WALLS.

As far as we have been able to ascertain Stirling remained an unfortified town, depending upon the Castle for protection, down to the middle of the sixteenth century. No doubt her position was strengthened by the precipitous rocky cliffs on the south and west, but her main strength lay in the fortress on the summit; in it the inhabitants trusted, nestling under its shadow in times of peace, and retiring within its walls in times of danger. All through the earlier wars and sieges, indeed down to the time indicated, we never read or hear of any resistance being made on the part of the town, either by fortification, ditch or wall. In dealing with our subject, it is necessary to refer to several important walls which existed prior to the time stated. The most important of these was called the "Kingis Dyke," erected by James IV. in the beginning of the sixteenth century. This dyke or wall enclosed the Crown lands, embracing as they do to-day, the Park, the Castle, and the Gowan or Gallow Hills. After stretching round the King's Park it ascended the Back Walk at the Haining, where it joined the Churchyard wall. From this point, by various turnings, it was carried right up to the Block House or Palace gate of the Castle, said to have been erected by James III. From this gate it went by what is now the French battery, stretching across the pass of Ballangeich, thence enclosing the Gallow Hills on the east, and stopping at the Mill Lade near the Old Bridge. So far as this wall came in contact with the burgh, it formed its boundary. In the governing Charter of 1641 the boundary of the burgh at the Castle is described "as together with the whole houses, yards, tenements, land and craigs lying beneath the Castle outwith the precincts of our Castle and Palace of Stirling." The additions to the Castle, and the alterations which have taken place in its neighbourhood during the course of centuries have obliterated nearly all trace of this wall, but its position may be very correctly understood by following the municipal boundary line on the Ordnance Survey map. We question if any part of

the "Kingis Dyke" exists at the present day, unless it be some portions of the wall behind Park Place and the foundation still exposed at the Haining. Judging from what is here exposed we believe it to have been a strong and substantial wall, though perhaps not entitled to be termed a fortification.

THE CHURCHYARD WALL.

We believe it to have been a continuation of the "Kingis Dyke," similar in strength, and built about the same time. Down the centuries we come across entries of portions of this wall falling down and being rebuilt, as on "19th June, 1739—Appoints the Town Treasurer to cause repair the Kirkyaird dike so far as fallen down and insufficient." 28th February, 1801—"¶A portion of the churchyard wall next Mr Erskine's garden having fallen down, it is ordered to be rebuilt, and the trees to be cut down and sold." No part of this wall remains but the foundation, it having been levelled with the ground, about the time when the new cemetery was formed in 1857.

THE BLACK FRIARS WALL.

Turning to the east end of the town, we have it on record that the lands belonging to the Preaching or Black Friars, were enclosed with a stone wall,* but of what dimensions or what time it was erected we have no knowledge. In all probability it would be a simple enclosing wall, of an earlier date than the sixteenth century. We place the site of this wall about Thistle Street, there being a general agreement among local authorities that the line of this street formed part of the southern boundary of these lands. There are also references to a fence or wall which existed previous to the erection of the Town Wall proper. It may not have been a continuous wall, but what there was of it was erected near the site of the present wall, and where it crossed the road at what is now Port Street it was provided with a gate. We are not told of what materials this wall or fence was constructed; what we do know is that it afforded no security to the inhabitants. As we intend dealing with the gate by itself, we now hasten to the consideration of the more important wall and the events which led up to its erection.

THE TOWN WALL.

The erection of the Town Wall proper may be traced to the terror and alarm caused by the exciting and stirring events of the first four years of the life

* Town's Charters and Documents, page 209.

of Queen Mary. Mary Stewart was born in Linlithgow Palace early in December, 1542. On the 21st of that month intimation of her birth was sent to her great uncle Henry VIII. of England. His first thought, on hearing of it, was how he might cozen her out of her inheritance under the specious pretext of demanding her as a wife for his son Prince Edward; but with the full intention of usurping the sovereignty of the realm during her minority and keeping it in the case of her death. The story is too long to tell how all the attempts on the part of the English King to secure the person of the infant Queen failed. The last drop in the bitter cup of his disappointment was the coronation of Mary without his leave or consent, in the Parish Church of Stirling, on the 9th day of September, 1543.* Henry was so much exasperated by this act, that he instantly ordered her to be seized and conveyed to England. Then followed the "burning and slaying" expedition of the English in 1544, and the threatened invasion of 1547, which intensified the bitterness between the two countries, and made the government of that day more determined than ever to keep secure the person of the infant Queen. Stirling was the Royal home, and this determination took the form of fortifying the town, according to the manner of the period. We find therefore in 1547, that "contributiones and soumes"† of money were granted and given by the Queen Dowager of Scotland and several noble lords, spiritual and temporal, barons and gentlemen in their degrees "for beilding, strynthing, and upmaking of the wallis of the said burgh of Stirling, as is contenit in ane buik subscrivit be the Quenis Grace foirsaid, lordis, baronis, and uder gentilmen as said is, ilk ane for thair awin pairt, as the samyn in the self beires, extending in the haill to tua thousand aucht libris fyf schillingis fyf.d.," (£2008 5s 5d.) This book with the money subscribed was handed to the burgh treasurer, William Bell, the first laird of Spittal and a notable man in his day.‡ He is said to be the man with whom Darnley

* Miss Strickland's Lives of the Queens of Scotland, vol. iii., page 16.

† See Town Council Records, vol. i., page 61.

‡ The Secretary (Lethington) came to Stirling on the 4th Sept., 1566, at night, and did lie at one Willie Bell's (House or hostelry in the High Street), and on the morrow the Queen (Mary) came to Willie Bell's to the Secretary and there did dine with him, and remained a good part of the afternoon with him, and liked him very well. The Queen then returned to the Castle of Stirling.—Miss Strickland's Lives of the Queens of Scotland, vol. v., page 3.

lodged when living apart from the Queen. We should like to have been able to produce this book, but it cannot now be found. Other monies were given by the Town Council for the same purpose and patriotism was not wanting; for instance, on 26th Oct., 1547,* the fishings of the Forth were let to "Johne Forestare" for three years at £18 per annum, "extending in the haill thre yeiris to the soum of fyfti four poundis money of this realm, paid be the said Johne in foirmale befoirhand in ane haill soum and togeddir, to be expendit upoun the stryntbing and bigging of the wallis of the town at this present peralus tyme of neid for resisting of our auld innimeis of Ingland." But it was too late, the disaster of Pinkie Cleugh found the walls little more than begun, and Stirling still unsafe as a royal residence. The Queen was accordingly removed to Inchmahome on the Lake of Menteith, where she spent, with her four Maries, perhaps the happiest winter in her eventful life. In the words of Henry Glassford Bell.

"And there five noble maidens sat, beneath the orchard trees,
In that first budding spring of youth when all its prospects please;
And little recked they when they sang, or knelt at vesper prayers,
That Scotland knew no prouder names, held none more dear than theirs;
And little even the loveliest thought, before the Virgin's shrine;
Of royal blood and high descent from the ancient Stuart line.
Calmly her happy days flew on, uncounted in their flight,
And as they flew they left behind, a long continuing light."

With the spring of 1548 the English returned, and occupied the town of Haddington, from whence they issued, burning the villages, and destroying the farms, rendering the most fertile districts almost an entire wilderness and spreading fear and terror over the country. The Town Council of Stirling got thoroughly alarmed and at a meeting held in February,† they "devisit and ordanit that all manir of induellaris within the burgh be redy with their bodeis servandis and hors to wirk and labor for stryntbing of the touin in all sortis as sal be devisit and commandit; and in likmanir that na manir of man depart of the touin, or leiff the samyn now in tyme of mistir, under the pane of tinsale and escheting of their landis and gudis and thairselffis nevir nor thair airis nevir to have place, freedom, nor dwelling within the touin afterwart."

* Town Council Records, vol. i., page 50.
† Town Council Records, vol. i., page 51.

In consequence of this order everything else came to a standstill in the burgh, the whole energies of the inhabitants being devoted to the building of the walls. Those who could not build had to serve those who could; the bakers supplied them with bread, while others supplied them with refreshments; everyone had to do something, the Treasurer paying for the whole out of the subscriptions already referred to. A considerable portion of the wall must have been built on this occasion as the whole of the money subscribed was spent upon the work, with the exception of £359 19s 10d which the Treasurer, William Bell, when called to account for it, declared he had never received; and had it not been for a determined feud between two Provosts, it would in all likelihood never have been recorded.*

Passing over an interval of nearly twenty-five years, we again find a child (James VI.) on the throne, Stirling his place of residence, Queen Mary an exile in captivity, and the country divided into two parties, each striving for pre-eminence. Stirling was held by the King's party, and Edinburgh by the Queen's party. To avenge the death of the Archbishop of St Andrews, an attack was made on the town by some four hundred of the Queen's party. Nominally this party was commanded by

* John Craigangelt of that ilk, late Provost, and Henry Levingstone of Falkirk. Not only was the Council divided, but the town itself was divided into two parties. The merchants took the part of Craigangelt, and the craftsmen sided with Levingstone. Several of the craftsmen attacked Craigangelt and seriously wounded him. Feeling ran so high, and the strife between the two parties became so bitter, that the Queen Regent had to interfere. By a letter from her own hand, dated 17th September, 1556, she ordered the citizens at the forthcoming election not to choose any "outland" man, but "ane" of their own honest neighbours to be Provost; and the person chosen was not to be "part taker" in the "feud betwix" Henry Levingstone and the Laird of Craigangelt. By this means the tumult was allayed. This is how the other matter came about. William Bell, the late Treasurer, sided with Craigangelt, and James Watson, the new Treasurer, sided with Levingstone On his entry into office, Watson found that William Bell had taken possession of the lands of Spittal without being infefted therein. He also found the deficiency of £359 19s 10d in the subscriptions for building the wall. He reported the matter to the Town Council, and a summons was immediately raised against Bell. Ultimately the matter went into arbitration. By the finding, William Bell had to give up Bridgehaugh, but he could retain the remainder of the lands of Spittal (now the Spittal Farm, part of the estate of Airthrey) on payment of an annual feu-duty of £18 6s 8d. They believed his statement that he had never received the £359 19s 10d, and they gave him power to pursue the subscribers for the amount. See the Town Council Records, vol. i., pages 61, 62, 63, 65, 68.

Huntly, the Queen's lieutenant, but the guide and real commander was named Bell, said to have been a native of the town. They arrived at Stirling between three and four o'clock on the morning of the 4th September, 1571. They entered the town, which seems to have been entirely unguarded, and swept the streets with cries for the Queen and vengeance for the fate of the Archbishop. This attack, which resulted in the death of the Regent Lennox, and the ease with which the town was taken, caused such a feeling of alarm that the authorities again set to work to still further strengthen the walls. Money was raised from the sale of "our propir annuallis and obiit silver of our said burgh, for reparatioun and building of our commoun workis, and specialie the wallis of the touin foirsaid for enforsing and strenthing of the samyn now in this trublus tyme of civile weiris betuix the nobilitie of our auin natioun, and for saiftie of our lyffis and gudis."* The work seems to have been carried on with more or less regularity for some years, continuing until it was completed throughout its entire length. Beginning at the Churchyard the Town Wall proper extended along the present irregular line to Port Street, stopping at the extreme end of the present Custom House property. From thence it passed through Messrs Kinross & Sons' Carriage Works to Orchard Place, terminating at its junction with the Blackfriars wall somewhere about the top of Thistle Street. After this date the wall along with the Tolbooth and the causeways became an annual burden on the common good of the burgh. Each burgess was stented or taxed in proportion to the amount spent on these public works. The accounts begin in 1634, when we find £130 spent; 1635, £109; 1636, £80; 1640, £100; and in 1643 the sum of £190 is spent on "making beiting and mending the tolbuythe, calsayis and wallis of the toun."

NORTH WALL.

In addition to the "Kingis Dyke" there are indications of a wall having been erected on the north side of the sloping ridge on which the old town was built. It extended from the Castlehill to the Mary Wynd by the south side of the lane known as the King's Stables. From thence it went by the back of Princes Street, forming the northern boundary of the Baker Street gardens and terminating at the foot of Friars Wynd. Though this wall could not be called a fortified wall, there is one portion of it

* Town Council Records, vol. ii., page 376.

still existing behind Princes Street, which is every bit as strong as the town wall itself. We date the erection of this wall some time previous to 1650, the next important period to which we desire to call your attention.

In 1650 we find Scotland threatened with an invasion by Oliver Cromwell. A crisis had arrived when her people had to choose between the Monarchy and the Commonwealth. By a federal alliance with the Commonwealth they would have escaped the humiliation of subjugation, and stopped the effusion of much blood; but they preferred the Monarchy. The Prince (Charles II.) arrived at the mouth of the Spey on the 3rd of July, 1650, hoping to secure the throne and kingdoms which his father had lost. In order to prevent this, Cromwell crossed the Tweed, two weeks later, with an army of sixteen thousand men, trained veterans and strong in artillery and cavalry. That night when they crossed the Tweed, we are told "the Scotch beacons were all set on fire, the men fled, and drove away their cattle." To make the alarm greater, the Scottish clergy represented the invaders as "monsters of the world—army of sectaries and blasphemers" was the commonly accepted term for them among the Scottish people. Stirling shared in this alarm and great preparations were made for resistance, the walls were put in proper repair, levelled up behind with earth, and for the first time defended and protected by cannon. The Ports and gates already erected were strengthened and put in proper repair. As an additional defence on the east, the course of the Burgh Mill lade was converted into a deep fosse or trench, with a "clous" or sluice at the lower end of it. Wood barracks called the main guard were erected on the public street near the Mercate Cross. These various works were constructed by the Magistrates under the superintendence of Thomas Weymes, Major of the (Royalist) Artillery. Never before was Stirling so strongly defended, and Cromwell, though he came near it on two occasions, deemed it more prudent not to attack it. Of his first visit in September, 1650, he wrote.* "On the 16th we marched to Falkirk, and the next day following, within cannon shot of Stirling, where upon Wednesday, the 18th, our army was drawn forth, and all things in readiness to storm the town. But, finding the work very difficult, they having in the town two thousand horse and more foot, and the place standing upon a river

* Cromwell's Letters and Speeches, by Thos. Carlyle, vol. ii., page 247

not navigable for shipping to relieve the same, so that we could not with safety make it a garrison, if God should give it into our hand." Of his second visit on 24th July, 1651, he wrote,* "I marched with the army very near to Stirling hoping thereby to get the Pass, and went myself with General Deane and some others up to Bannockburn, hearing that the enemy were marched on the other side towards our forces in Fife. Indeed they went on four or five miles to meet them; but hearing of my advance, in all haste they retreated back and possessed the Park and their other works, which we viewed, and finding them not advisable to attempt, resolved to march to Queensferry, and there to ship over so much of the army as might hopefully be master of the field in Fife." This movement on the part of Cromwell caused some stir in the King's camp. We read in the accounts of "the town Drummer beating a bank calling all officiaris and souldiouris to the leager" (camp), 24s paid to two men that convoyed the Kingis coutch to the leager, and horses are hired for the "Kingis baggage." It is matter of history that the King broke up his camp suddenly about the end of July and departed for the south. A few days afterwards Cromwell went off in pursuit of him, leaving General Monk with an army of five or six thousand men to subdue the country. It is now with him we have to do. Early in August, Monk with his army arrived before the walls of Stirling, the General taking up his residence at Livilands. Judging from the accounts, it is evident that since the departure of the King an entire change had come over the spirit of the citizens, and that the authorities had made up their minds, not only to surrender the town, but to invite the invaders within the walls. "Item, to (bailie) Johne Crawfurd, for a table cloath that wes takine and put out on the wallis for cullouris, £2 13s 4d, and more significant still "for ane lantron to schow lycht quhen the Englisches enterit the toune in the nycht, £2 2s." Neither does it appear that the siege of the Castle was serious or protracted. Thomas Gumble, General Monk's Chaplain and Biographer tells us, "that the first attempt he (Monk) made, was upon the Castle of Sterling, a stately edifice and of great strength; many times the Kings of Scotland (it being very capacious) used there to keep their courts and residence, and in times of danger to retreat from any conspiracies; wherein James the Sixth of

* Cromwell's Letters and Speeches, by Thos. Carlyle, vol. ii., page 320.

Scotland, and First of Great Britain, was secured in the most part of his younger years, from the turbulency and disquiet of his subjects under the Regents, till he took the Government upon himself. Over the door of the Chappel that belongs to the Castle this motto * is to be read—J.R. nobis haec invicta miserunt centum sex proavi, 1617; which shews that it had remained unconquered so many King's reigns; but to some men's genius and spirit, nothing is unconquerable, for General Monk, within three days, made the besieged yield up this invincible piece upon articles, with all the warlike ammunition which was in it (which was a large proportion), five thousand arms, forty pieces of ordnance, all the records of Scotland, the chair and cloth of State, the sword and other rich furniture of the Kings, sent to the Tower of London; and after His Majesties return, restored to Sir Archibald Primerose, Clerk Register; with many rich goods of the Earl of Marr, the Hereditary Governor; with the writings and deeds belonging to many private persons, which were all redelivered according to articles." It may be of some interest to know that the town's records and charters were among those valuable deeds in the Castle. They were afterwards recovered by Bailie John Robertsoue on his paying charges to the extent of £14 6s 8d. The fact that a new "kist" had to be got to keep them in is very suggestive, and may be the explanation why so many of our valuable records and deeds are awanting to-day.

From the middle of the 17th century to the Rebellion of 1745 no further additions seem to have been made in the way of fortifications. On each occasion of alarm the walls and gates were put in order and any breaches built up. This was done in 1685 and during the Revolution of 1688-9. On 27th February 1714 the Treasurer was appointed to call workmen and sight the town Wall, and make report anent the condition thereof nixt Councill day. The Walls were put in order in 1745 when the authorities prepared to defend the town against the army of Prince Charles son of the Pretender. As in 1650 the town authorities removed their charters and evidents, for safe keeping to the Castle vaults. We read that the Highland Army arrived in front of the Walls on 4th January 1746; the Prince meanwhile taking up his quarters at Banrockburn House, then the residence of Sir Hew Paterson. On Monday the 6th, about mid-day, a messenger brought

* There must have been some alteration here, as the motto is not now in existence.

a letter from the Prince to the Town Council. It was headed "Charles, Prince of Wales &c., Regent of Scotland, England, France and Ireland and the Dominions thereto belonging; to the Provost, Magistrates and Council of the Town of Stirling." By this letter which is still in the possession of the town, the young Chevalier "demanded peaceable entry into and possession of the said town to the forces under the Prince" and an answer was required "by two oclock in the afternoon this day." There is some historical difference as to the manner in which the negotiations were carried out, possibly the Town Council contained some Jacobites. Certain it is the terms of the capitulation were agreed to on the 7th, and next morning the arms belonging to the disbanded militia and volunteers were conveyed into the Castle. In the forenoen the portcullis was raised, and the Highland Army entered and took possession of the town between three and four o'clock in the afternoon. We think the Town Council acted wisely in surrendering the town, as the walls were never meant to resist cannon. For the next three weeks, feeble attempts were made on the part of the Highlanders to storm the Castle. These were vigorously and successfully resisted by the garrison under command of General Blakeney. On the 1st day of February the Prince raised the siege, and with his army retreated to the north, evidently fearing the approach of the Royal Army under the Duke of Cumberland. With the passing away of this Rebellion the history of the town wall may be said to come to an end. We reserve a detailed description of it to the latter part of the paper, and in the meantime proceed with the ports or gates. Of these there were five, but the first in importance was the South Port or Burgh gate, called also

THE BARRASYETT AND BARRASPORT.

Old Stirling, by which term we mean Stirling within the walls, from a very early date, possessed only one entrance. As it had only one exit to the north by way of the old Bridge, so the only entrance by road from the south was opposite the present Port custom house, the site of the ancient gateway being at the place marked on the causeway. As the rocky ridge on the south of the town formed its natural boundary, so this ancient entrance came to be variously known as the "end of the toun," the "Port of the burgh" and the Barrasyett." This word, according to Jamieson, means "a door or yett made of bars of wood, alike distant from each other") so that possibly the original gate was made

of wood. There can be no doubt that its erection took place at a date long before the time when our records begin. The expression "end of the toun" dates from the 12th century. In 1242 the road by Port Street is termed* "the great road from Stirling to Kirketoun" (St Ninians), as if in existence for centuries before. By the old Burgh laws, lepers were commanded to sit at the "toun end" and there "ask almons at furth passand men and ingangand" and not to beg from door to door. The earliest record we find is in a Protocol of date 7th May, 1471, when an inquest (a legal act) was made at Wolfs' Craig at the "end of the toun," and on 9th June, 1477, we find the Town Council protesting against payment of custom on wood going forth at the "Port of the burgh."† Again in the accounts of the Lord High Treasurer for the year 1497 occurs the following "Item, the xxvj day of August to the seik folk at the toune end of Strineline be the Kingis command ijs.," also "Item the xviij day of September to the puir folk at the Port of Strineline be the Kingis command xvj. The seikmanis house or lepers hospital stood on the present Glebe lands, anciently known as the "leper's croft," and the lepers had exercised their right in coming to the gate to solicit alms. The first mention of the Barrasyett known to us, is in a record of date 27th October 1522 where it is ordained that no person wash any manner of clothes at the town burn within the "Barrasyett or aboun for fyling of the bourn undir the pane of viijs unforgevin and the breaking of the vessel that they wash with." The town burn being at that time the only water supply for the burgh, it was of the utmost importance that the water be kept pure and clean. This ancient gate which seems to have been erected for purely civil purposes, served the Burgh down to the time when a much stronger defence was required.

THE FORTIFIED GATE.

As we have already stated its successor was erected in the infancy of Queen Mary, and materially strengthened during the minority of James VI. From the scarcity of materials at hand, it is somewhat difficult to give a correct or detailed description of this massive and substantial structure. So far as we have ascertained, no drawing of it can be found except a very rough sketch shown on the first feuing plan of Allan Park. Bennie's Croft, the name by which Allan Park was formerly known, was

* Cartulary of Cambuskenneth, page 359.
† Burgh Records, vol. 1 page 262.

purchased by the Town Council from Captain C. Stewart in 1735, and sold by them to Allan's Mortification in 1740. The Town Council as Patrons of Allan's Mortification, at once resolved to feu the land for buildings to face what is now Port Street, and accordingly a plan was drawn out in 1741. We show a tracing of this plan. From it the port or gate appears to have been a solid mass of building, about 120 feet long by 20 feet thick; having an archway pierced through its thickness. This archway seems to have been about ten or twelve feet in width. From the records we learn that the archway was defended by a massive iron portcullis; also, that a portion of the portcullis was made to suit as a wicket or small gate provided with lock and key. The sketch shows that access to the top was got by a stair built on the inside of the wall, and that the rampart was protected by a parapet or embrasured wall carried right round the building. As there is no elevation shown, the height of the walls and the style of architecture must be left very much to our imagination. In all probability the archway would consist of hewn masonry, with a groove or recess fitted to receive the portcullis when raised. The building would probably be from twenty to twenty-five feet in height. Some of these ports were stately structures. The regulations for raising and lowering the portcullis were the same as those for opening and shutting the Bridge gate. As we have already dealt with these in a former paper we need not now repeat them. We may be permitted to quote an interesting extract from the Kirk Session records of date September 4th, 1643. It occurs during the ministry of Henry Guthrie, and is entitled an "Act anent the keipping of the Portis on the Sabboth day. It is ordaynit for the better keipping of the Sabboth, and restrayning of passingeris with horses or loadis, that nayther the Brig port nor the Barrasyet be further opnit, but onlie the wickitis thairof, fra morning till eftirnoone on the Sabboth day, as also that in tyme of sermone both befoir and eftirnoone, the wickitis be keippit clois and lokit; and in cais the samyn be not preceislie obeyit, these that hes the trust of the keys to pay for everie transgressione xls toties quoties." From the records we get interesting glimpses of the manners and customs of our forefathers. The Barrasyet was a place of punishment.* In 1629, James Ramsay, a creillman, convicted of petty theft, was ordaned to be scurgit through the

* Burgh Records, vol. 1, page 162.

toun to the Barrasyet, and there burnt on the shoulder, and the said creillmanis wyffe and the uther two personis to be excited and banisbit this burgh and libertie thairof for evir, and gif evir ony of the said personnis be fund again thairin to be hangit or drownit without assyse or doom of law." These scenes were of frequent occurrence. Another and a barbarous custom was the exhibitions on the walls of the ports of the heads or limbs of those who suffered during troublous times. In the accounts for 1650-1, the following significant entries appear. "Item to the officaris for taking James Grahames leg out of the wall, £2 8s." "Item, givin for up-putting James Grahames leg and spent with them that did it, £4." * These entries refer to the dismemberment of the great Marquis of Montrose, who was executed in Edinburgh in 1650. After his execution one of his limbs was sent here and fixed for exhibition on the Port Wall. In January 1651 it was taken down, conveyed into the town, and placed for safety high up on the Tolbooth Steeple, where it remained till it was called for at the restoration. From the narrowness and bad condition of the streets, it was almost imperative for horsemen to dismount and lead their horses by the head in passing through the town, especially during the day. To enable them to remount a "louping on stane" stood in a convenient position inside the gateway. At the "Barrasyet" Royal personages and other distinguished visitors were received by the Magistrates and community with befitting honour. The visits of James VI. in 1617, of Charles I. in 1633, Charles II. in 1650, the Duke of York (James VII.) in 1681, and the Duke of Cumberland in 1746, are well known to all readers of local history and need not be repeated. In 1652 an important visit, of which little is known, was paid to Stirling by Oliver Cromwell's commissioner, Lieut.-Colonel Pick. As this opens up an interesting chapter of local history, we may be pardoned if we refer to it at some length. After the subjugation of Scotland and the defeat of the King at Worcester, a period of about five months elapsed before Cromwell took steps to adminster the affairs of the country. Michaelmas 1651 came and there was no guide or rule as to what was to be done regarding the Town Council elections. Some burghs had no election at all, for fear of the responsibility to be incurred. Happily for Stirling at this critical period, an able, wise, and prudent

* Burton's History of Scot., vol. vii., page 8.

man was at the head of affairs, in the person of John Short, then Provost of the burgh. He proceeded with the election of Councillors, Mhgistrates, and office-bearers, as if nothing had happened, as the record informs us, according to "anatient custum," and did not allow the Burgh to get into confusion. As is well known, in January 1652, Commissioners were sent down from the Parliament of the Commonwealth of England for the purpose of ordering and managing the affairs of Scotland. They resided in semi-official state at Dalkeith Castle. On the 4th of February proclamations were made at the Mercate Crosses of burghs, desiring the burghs to send representatives to Dalkeith to treat with the Commissioners. Thomas Bruce of Weltoun, an old Provost, was appointed from Stirling as Commissioner. Full powers were given to him to act for the best interests of the burgh. When he arrived at Dalkeith and saw that he was expected in name of the burgesses to sign a declaration of their acceptance of the tender of the Parliament of the Commonwealth of England he got alarmed. The provisions of the tender* were "that Scotland be incorporated with, and made into one Commonwealth with England; that thereby, the same Government that is established in England, without a King or House of Lords, under the free state and Government of England may be derived to the people of Scotland, and they engage themselves to live peaceably under and yield obedience to the authority of the Parliament of the Commonwealth of England as exercised in Scotland"; and in return they would be "taken into the especial protection of Parliament." He (Thomas Bruce) desired a few days to decide, and in the interval sent the papers to Stirling accompanied with a letter from himself. In it he says "Itt tuchis me verie neir moir nor I will sett dowin in paper att this tyme. I hauff sentt my man with all the paperis to yow to advys with, and send them bak on Munday, and ether cum sum of your selfis, or send me wird quhat I sall do. To refuis itt your commissioun is so large in my own naime I dair nott refuis excep ye all command me, and to do itt is my grif, and God knows how I will be exponitt (characterised) for taking such ane commissioun."† In the postscript, he says, "giff I had not respek to the towin, and fering the evill suld fallin them, I wald never exceptit of the commissione, nor agrie

* Burgh Records, vol. 1, page 200.
† Burgh Records, vol. 1, page 201.

to this paper an it suld hauf cost me quhat is deirist to me." These quotations reveal the Commissioner's state of mind at this critical juncture. Needless to say he was instructed to sign the declaration, which he did though with great reluctance. He also applied for a warrant whereby the burgesses might be authorised to elect officers to govern the burgh. This application was granted, and Lieut.-Colonel Pick, who was appointed Deputy-Governor of Stirling, was commissioned to conduct the election. He arrived here, accompanied with a staff of officers on the 5th March, 1652. There was a formal opening of the "Burrowsyeatt," and a banquet of bread and wine to the Colonel and his staff. In discussing the warrant it was found that the power of electing the Magistrates was reserved by the English Commissioners.* Naturally the Town Council objected to this, and Duncan Nairn, Dean of Guild, Robert Russell, convener, and William Barclay, Town Clerk, were appointed commissioners "to repair to Dalkeith and supplicat the commissioners for the libertie and fredome of this burgh and uther things necessar, speciallie the electing of Majestrates thairin." The supplication was granted, and the revised warrant (the original of which is in the possession of the burgh), dated 14th April, was sent on to Stirling. It contained the proviso that in the event of the election not taking place within ten days the privilege of electing their own Magistrates might be withdrawn. The election was fixed for the 21st,† and on that day the whole of the male inhabitants of the burgh were convened, in all probability at the Mercate Cross, to take the oath of allegiance to the Commonwealth. After this was done in all solemnity, the Town Councillors were elected. On their acceptance of office they had again to take the oath. On the following day, the Provost, Magistrates, and other office-bearers were elected, "all which persons being present acceptit of the said office, and were sworne be Lieut.-Colonel Pick according to the tennour of his commissione." ‡ The ceremony of submission was concluded with the presentation of the freedom of the Burgh and Guildry to Colonel Pick and his son Joseph, winding up in the evening with a grand banquet in the Provost's own house. It is therefore not the fact as stated by Chambers in his Picture of Stirling

* Burgh Records, vol. 1, page 202.
† Burgh Records, vol. 1, page 293.
‡ Burgh Records, vol. 1, page 204.

"that Stirling was one of the Scottish burghs which Cromwell disfranchised for not consenting to the Union he desired to effect between England and Scotland." Indeed, the only opposition of any importance to the acceptance of this tender was on the part of the minster, the famous James Guthrie. He was so bitter, preaching and speaking against it from the pulpit, that to put a stop to him the Governor would not allow him to enter the Church. This state of matters lasted so long, the congregation, being as it were, without a minister, that on the 17th July, 1652, the Town Council *(p)* "resolved if it may stand with the ordour of the churche to give ane call to Maister Harie Guthrie late minister of this burgh," but it turned out this could not be done. Unfortunately for the peace of the burgh and the happiness of the minister, this was not the only occasion on which James Guthrie was out of touch with the Town Council. At the same time, the submission of the burgesses and the presence of an English garrison in the Castle, with stern military rule in the burgh, was a humiliation, so deeply felt by the inhabitants, that for many years thereafter, the time of the Commonwealth was referred to as the "tyme of the Inglisches," But to return to the gate, it would take us too long, and the task is quite beyond our power to give anything like a connected story of the tide of his history that swept through the successive entrances known as the Barrasyett. Suffice it to say it embraced that most interesting period of Scottish history known as the reign of the "House of Stewart" from its rise in the 14th century to its final fall at the Rebellion under Prince Charlie, the last of his race, who entered Stirling as a walled and gated town. With the closing of the Rebellion of 1745 all interest in the Barrasyett ceased. Every year it gradually became more and more an incumbrance and an obstruction, until 1770. On 4th August of that year "the Councill considering that some of the office-bearers had agreed with the gentlemen of the county to take down the Burrows gate for beautifying, widening and straighting the entry to the burgh, they approve thereof, and of the agreement made betwixt Bailie Young and Duncan Campbell, mason, for taking down the same at the expense of fifty-two pounds ten shilling, stg., the said agreement bearing date the twenty-fifth day of July last. As also approve of some orders given by Bailie Young for taking down part of the said Port previous to the said agreement." In accordance with this resolution the Barrasyett was taken down, the ends of the wall

squared, and finished on the top with "spires or pyramids" similar to those at present on the Old Bridge. These again had to be removed at the making of Dumbarton Road in 1795. After the stone erection was removed, a toll bar gate was erected, which remained in use for eighteen years, when it too was swept away on the erection of St Ninians toll bar.

THE NEW PORT.

This Port consisted of a strong wall erected on the "high gait," now known as King Street. It extended quite across the thoroughfare from house line to house line, but there was no continuing wall, as related in some of our local histories. Since reading this paper we have seen a kirk session record of date 17th November, 1597, wherein this Port is mentioned as then existing. Probably it was erected shortly after the return of the "Banished Lords" in 1585, as an additional safeguard.

To distinguish it from the older or ancient gate already described, it was called the New Port. From deeds in the Town Clerk's Office we were enabled to find its position exactly to have been at the place where it is shown in the causeway. So far as we have ascertained there is no drawing or description of it, but the fact that in 1652 we find the sum of £4 received for the vaults of the New Port, seems to imply a work of considerable magnitude. James VII. when he was Duke of York and Albany visited Stirling on 3rd February, 1681. In an interesting account of this visit we read "near to Striviling His Royal Highness was met by the King's Troop of Guards, and here the Duke's train increased to a great number. At the gate (Port Street) the Lord Provost of Striviling, at the head of the Magistrates and citizens, welcomed the Duke to their town, who (the Provost) kneeling presented the keys of the town of silver to his Royal Highness. As he entered the town he was saluted by the great guns from the Castle; within the first gate there was a guard appointed of purpose for this occasion consisting of one hundred young men, sons of the chief citizens in very good order with new fine Partigans (halberts), who made a lane for His Royal Highness till he was near the Second Gate, and then they marched before him; the Provost and Magistrates going on foot about His Royal Highness who was on horseback. From the Second Gate to the Earl of Argile's House, where the Duke lodged, all the inhabitants of the town who could carry arms, were drawn up on both sides of the street, who received

His Royal Highness with great shouts and acclamations of joy and welcome." In 1703 a payment is made for clearing the causeway at "the New Port of stones lying there to lett Tullibarnis (Earl of Tullibardine) coatch and others pass throw." This obstruction was caused by the fact that the stones for the Tolbooth and Steeple in Bread Street, then in course of erection, were hewn and prepared here. They were then taken to the building on "slades" (sledges) by the town and hospital tenants. In a paper read by Mr David Chrystal in September, 1880, on the Stirling Blockade of 1746, the following appears in General Blakeney's "Instructions for the forces in the town of Stirling; The six companies of the County Volunteers to have their alarm post at the upper end of the Meal Market, and to mount guard by companies, one company at the Burrows Port and another company at the Fryers Wynd."

"Captain Erskins companys alarm post to be at the Brest Work, or New Port, the lower end of the Meal Market, and to furnish a guard of a sergeant, corporal, and twelve men at that Brest work."

"These seven companies to be under the command of Captain Little." Before passing from this gate we may be permitted to make a few remarks on the Meal Market. In 1681 the property at the site of the present Municipal Buildings, then known as "Archie's Nuick," was purchased by the Town Council for a Meal Market. For the purpose of encouraging the Town Council in their proposal, "Duncan Watsone, ane of the lait baillies, maid offer to build the said maill mercat, furnish all materiallls necessar for the building thairof, pay the tradesmen for thair work, and to ly out of the wholl money frie of annual rent to Witsonday, 1682." Duncan's offer was willingly accepted, and the building immediately proceeded with. For the first time in local history those attending this market had a roof to shelter them, and under which they might conduct their business in comfort. The market itself occupied the whole street from Archie's Nuick down to the Breastwork or New Port. The market dues date from 1681, being imposed to meet, among other things, the expenses incurred in erecting this building.

The Meal Mercate remained at "Archie's Nuick" until it was pulled down in 1814 to allow the present building to be erected. The proposal seems to have been simply to erect a public building with a steeple on it. The buildings were finished in May 1816, when the Town Council offered the ground

floor to the county gentlemen, who had made a request in 1804 for the same site for the purpose of erecting a ball-rooom. Nothing came of it, and some years after, the ground floor was sold privately for two shops. The first floor was let in May 1816 as a coffee house and reading room, and the second floor as a public library. It was afterwards known as the Athenaeum. The Town Council having in 1809 purchased old property on the site of the present Corn Exchange, a few years after proceeded to erect a new corn market, though the Exchange was not erected till 1838.

There is no minute of the removal of the New Port Gate, but in all likelihood it would be taken away about the middle of the 18th century.

MARY WYND PORT.

This was simply a barrier or stone wall built across the Wynd, with a gate in the centre. In the early days of the Church, during the ministry of Patrick Symsoun, the members of Kirk-Session were annually elected and ordained. The town was divided into four quarters, and six elders and two deacons were appointed for each quarter. These quarters were sub-divided, so that "everie eldar and deacon be appeinted ane particular portion of the toun quha sal be haldin chieflie to tak attendance to the manirs of the pepill thairin, that be his privie admonition and discipline of the eldarship, they may be restrained fra vice, and maid obedient to the word." The first quarter embraced the north side of Broad Street, from the top to the bottom, the west side of the Mary Wynd down to the Port. Then it took in the scattered houses of the northern suburbs such as the Whins, the Bridge, Bridge-haugh, Bridge Mill, the Gowan Hills, and the Craigs, with the Nether Hospital at what is now Irvine Place, and then back again to the Port, then the east side of the Mary Wynd continuing to the corner house at the top of Baker Street which was the first house of the second quarter. These divisions contain much information as to old landmarks and by them we are enabled to fix the site of this port; and the date of its erection. It was erected about 1613, and stood at the lower end of the so called "Queen Mary Palace." It was not a very important gate, but a certain interest attaches to it, from its proximity to the "Palace." Although the origin of this fine old building is not known, it can be traced from its architecture to belong to the sixteenth century, and in all likelihood it formed

the residence of one of the Scottish nobles during the minority of James VI.*

Whatever its origin may have been, we ascertain from the kirk session records of date 17th Nov., 1597, that it was the property of and occupied by "Andro Cowane, Merchand." This Andro Cowane was the father of John Cowane, and in all probability he would acquire it soon after the death of the Regent in 1581. Andro Cowane resided in the "Palace" till his death in 1617. From the same source (in 11th Dec. 1617) we find it called the house or "land of John Cowane" the founder of the Merchant Hospital. It continued to be the house of John Cowane till his death in 1633. In 1634 it is called the house of "unquhile (the late) John Cowane. On 2nd February, 1636, it is mentioned as the "land pertenying to Allexander Cowane." He was the younger brother, heir and executor of John Cowane, and the property remains with him till 1641. In that year it passes into the hands of John Short, who was related to the Cowane family, and remains with him till his death in 1654. The fact that this house was the property and residence of John Cowane and his father, gives it an intense and increasing interest. Here John Cowane would in all probability first see the light, and spend the greater part of his life, and here he laid himself down to die, after calling his brother to him, and making him swear that he would faithfully "per-

* In 1881, we received from Sir James E. Alexander, of Westerton, a drawing of the "Palace," done with his own hand. It was accompanied with the following memorandum:—"St Mary's Palace, St Mary's Wynd, Stirling, is an ancient and very interesting building; it was at one time the residence of the Earl of Morton, Regent of Scotland, and where he entertertained foreign Ambassadors in a chapel or hall, 61 feet in length." . . . . "It is earnestly hoped that this one of the landmarks of old Stirling will be restored to a habitable state, and a lady look from her turret bower on the Ochils and the beautiful links of the Forth as in days gone by."

(Signed) J. E. ALEXANDER, Lieut.-General.
(A Son of the Rock and F.S.A. Scot).

Westerton, 14th July, 1881.

We are inclined to believe that this memorandum of Sir James E. Alexander contains the solution of the mystery connected with this building, and that it was really the Earl of Morton's house. We are strengthened in our belief by the fact that the Regent was a great builder. It is well-known that "he erected at Dalkeith a magnificent palace, richly adorned with tapestries and pictures, and fitter for a King than a subject. He also restored Edinburgh Castle, and erected a new mint, putting over the door, by the way, a prayer which he had at this time 1574-5 much need to use." "Be mercifull to me, O God."*—See Chambers Annals of Scotland, Vol. i., page 101.

forme that quhilk he wes to declair and will him to do after his deceis, that he sould provide out of the reddiest of his gudis, the soume of fourtie thousand merkis, usuall monie of this realme, quhilk the said Johnne furth of his zeal for the glorie of God, and out of the love he had to this burgh, he had left to be wairit and bestowit upone ane hospital to be buildit in sum commodious place within this burgh for sustenying thairintill the number of tuelf decayed gild brother, burgesses and induellaris of the said burgh." *(b)* The scene reminds one of patriarchal times, and we know how faithfully the trust was performed. Seeing that it can be ascertained, beyond the shadow of a doubt, that this was really John Cowane's house, a serious responsibility rests upon the Guildry if they allow it to remain in its present ruinous and neglected condition. If they really possess one-half of the gratitude they profess to have at their annual festivals, they will at once set about acquiring and restoring it. This would be a small matter for a wealthy corporation like the Guildry to accomplish; we commend it to the Dean and his Council. We find the Mary Wynd Port in existence in 1745 and in good order, only requiring a new lock and key.

THE FRIARS WYND PORT

seems to have been of similar construction with the preceding one, and probably erected about the same time. So many alterations have taken place here that it is difficult to point out the exact site. Probably it stood at the foot of Maxwell Place, between the Blackfriars Wall and the North Wall. It is mentioned in the '45 as still existing, being furnished in that year with a new lock and key.

DIRT RAW PORT.

This port, like the previous ones, derived its name from the street or row in which it was situated. The Dirt Row still exists, although not now as a thoroughfare. In the 17th century the lane which enters at Messrs Kinross & Sons' works extended to Orchard Place. It was then known by the unsavoury name of the Dirt Raw, and hence the name of the port. This gate or port was simply an opening in the town wall where it crossed the street at the junction of the Dirt Row with the lane or road (now Orchard Place) leading to and from the Burrow Mill. In times of trouble they simply built up this port, opening it again when the trouble passed away. It is referred to in the records, 16th

* Burgh Records vol. i. page 173.

April, 1670, when the Treasurer is instructed to mend the passage at the Dirt ra' Port. The Dirt Raw is referred to on 7th March, 1631, when the Treasurer is ordained to repair the toun wall at the Dirt raw, which was broken yesterday, being Sunday, by the great spate of water that broke out of the Park loch.

THE MAIN GUARD.

As already stated, this large timber erection or barracks was placed on the street near to the Mercate Cross in 1650. It was partly taken down in 1660, but the authorities having found some use for the remainder, it was allowed to remain till after the Rebellion.

THE TRENCH AND SLUICE.

Part of the preparations for defending the town in 1650 was the formation of the course of the Burgh Mill lade, from its junction with the town burn to the mill, into a trench. At the lower end of the trench a "clous" or sluice was constructed at considerable expense. By this means the trench would be kept full of water, and have the appearance of a small loch. From the mill the course of the burn was deep, with high banks, until it entered the Forth. In 1650 "£3 is delyverit to the Proveist, John Short, to be given for drink to those who were working at the 'clous.'" The same year Robert Garnock, smyth, receives £33 1s 8d, the most part of which work was for the "clous." Its position is fixed by a record of date 27th November, 1675, when the Council "ordaned ane dyke to be biggit with stone and lyme frae the toun wall doune wher the old trinch stands at the Burrow Mylne." It comes into notice during the troublous times of the Revolution. On 3rd May, 1689, Bailie "M'Knare is allowed his expenssis in going to Edinburgh to acquaint the proveist that the clous and trinches ought to be repaired." Formerly the site of the late Mr Walker's cattle mart was occupied by a large orchard, and from which Orchard Place derived its name. In the description of this property it is still termed the "Trench Orchard." In the beginning of the 18th century the trench with its clous was utilised and converted into the Burgh Mill dam, by which name it was afterwards known. This may account to some extent for the mystery which surrounds the position of the trench. It has perplexed all the local writers from Nimmo downwards, some placing it on the north and others placing it on the west of the town. Its position was well known to the earlier writers. Sir Robert

Sibbald, in his "History of Stirling," 1707, tells us "the wall was built upon the edge of the declining rockie hill; and from thence to the River of Forth, it being a soft ground, there is a deep fossa or ditch which may secure the south and south-east part of the town." Captain Sutherland, in his book (1794), page 71, tells us that the wall ended somewhere about the Dominican's Monastery, "and from that to the river, which is not far distant, there was a deep fossa or ditch, the water which works the Borough Mill runs now in its course, which secured the east parts."

OTHER ENTRIES OR PASSAGES.

In addition to the gates and ports already referred to there were other entries or passages through the walls. In 1601 and 1603, when the plague or pest was in the country, we find the following precautions taken for watching and keeping the various entries:—"The counsall find it neidfull and expediant that tua personis attend on the barres yett, tua at the burrow mylne, ane at the brig yett, ane uther at Balnageich, and ane uther at the plane treis, and that na strangearis be sufferit to have access at the said passages without sufficient testimoniallis." From this record it would appear that at this particular time there were only five public entries into the town. Of these the first three have been already referred to, and are well known. Balnageich or Ballangeich still exists, and at this time we take it to have been an opening through the "Kingis dyke" on the north side of the Castle, just where the dyke would cross the Ballangeich Road, near the Cemetery. It is somewhat different with the "plane treis," as no indication is given regarding its situation, and the name itself is totally lost. Except on these two occasions the name never again occurs in the records so far as we know. There existed even before these dates an opening in the "Kingis dyke" on the south side of the Castle, somewhere near to the valley; but whether it was the "plane treis" or not, we have not been able definitely to ascertain or determine.

ENTRY TO THE HIGH SCHOOL.

Were it not for the fact that this entrance has the appearance of having been made since the wall was erected, we would make the assertion that it was as old as the wall itself. As it is we make it out to be in existence within forty years after the erection of the wall. From one account of the attack on the town by the "banished lords" on their

return in 1585, we form the opinion that they gained an entrance here. As it is somewhat interesting, we give the account in full. "The lords with their assisters came to Fawkirk; from Fawkirk they went to St Ninians Chappell within a mile of Stirline, where they pitched their tents, and planted as it were a new toun, to the great terrour of their enemies on the first day of November. Their number amounted to nyne or ten thousand men. The adversaries were more in number, but not so forward for the other partie. The nixt morning about the break of day, they conveined after a secreit signal given to their companions. Some were appointed to make show to enter at a certain part of the town through some orchard on the (south) side, others to come by the ports to assault the toun upon the Castell hill side, but indeed to hold them off from anie conflict. In the meantime the lordis, with the whole bodie of their armie, marched upon the other syde, and passing the ditch at a certain mylne (Burrow Mill) entered through yairds by a narrow wynde (Dirt Raw Port), where they could scarcelie passe single man. The Colonell (Stewart) was directed to keip the streets near the (south) port of the town, Arran stayed about the bridge, and keiped the keyes himself, not willing to concredit himself with the Castell. Montrose was directed to keip the passage between the Park and the Castell (probably at the Valley). The lordis entered by a closse above the (south) port (as we think by what is now the High School entry). The Colonell made some show of resistance, some shott were delashed on both sides. But the Colonell being fiercelie assaulted fled to the Castell. The Erle Marshall and Lord Setoun to whom was committed the defence of the (south) port stayed there, and invaded no man. Montrose and Crawford understanding that the town was taiken on the other hand retired to the Castell. Arran fled by the bridge, locking it behind him, and casting the keyes in the water of the Forth. The lordis planted their ensignes before the fore blockhouse of the Castell. The provision of the Castell was scant. The King sent forth Secretary Maitland and Sir Lewis Bellendine to parley with the lordis. The conditions being agreed upon, they entered in the Castell of Stirline upon the fourth day of November, and presented themselves before the King, cleared themselves of all imputations and protested loyal respect to his Majestie. The King acknowledged there was not need of words, weapons had spoken well enough and gotten them audience to clear their own cause,

He confessed he had been too long abused, that it was the mightie hand of God that had brought them in with so little bloodshed, and welcomed them with cheerfulness as it seemed."* From a statement contained in a record of 1592, we form the opinion that this entry must have been built up soon after the incident just recorded, and not again opened till after the Restoration. We are, however, here met with the suggestion that in 1601 and 1603 this passage was the one known then as the "plane treis." The suggestion rests upon the fact that some noble specimens of the plane tree grew in the Greyfriars Yard. We admit the fact—but why is the name so utterly lost, seeing the plane trees are there till the year 1783? At the Restoration, when we again come in contact with the entry—it is a passage five feet wide, between two high walls, extending from the Bak Raw (Spittal Street) to the outside of the Town Wall; and it is called the "Back Brae Closs." As the Back Brae Closs, it was known down to the present century. By a winding path down the brae, it formed a direct road down to the "park acres." In 1720, the Patrons of Spittal's Hospital had bought up and acquired the whole of the park acres, with the view of laying them down in grass as a park for the cows belonging to the inhabitants. This formed the first cow park in the burgh, and indicated a change taking place in the manner of living. A change from the produce of malt—to the produce of the dairy—the houshold ale giving place to the more nutritive milk. Before we pass from this entry we may call attention to a good story told by John Ramsay, Esq. of Ochtertyre, in his book "Scotland and Scotsmen in the 18th Century." Lord Hailes, the historian, whilst here on circuit in 1783-4, "felt very indignant at seeing the root of a noble plane tree that had been cut down by the Magistrates of Stirling;—upon the Provost, David Gourlay, telling him they meant to remove the Popish carvings on the east end of the church to give more light—Sir, said the judge, since you have cut down the tree you may also take away the trumpery." Of this remarkable tree which grew on the site of the present High School it is stated, that having been sold to a wood merchant, the united energies of sixteen horses were required to convey it to its destination.†

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*[Calderwood's History of the Church of Scotland.]

† "The Story of the Friars of Stirling," by Mr W. L. Shirra, 1890.

ENTRY AT THE CHURCHYARD.

The first mention we have of this passage is in a record of date, 1st April, 1592, wherein it is stated that "the passage to the bray shall be made through the kirk yarde of the said burgh, entrand at the yett thairof, which passage shall serve for labouring the said bray at all seasons neidful." The inhabitants also having the right to use the entry "for doing their lesome (lawful) business under the bray at all tymes that they shall have to do." This entry continued, and probably was the narrow passage by which, in 1648, George Monroe, an able officer in the Royal Army, gained admittance to the town. He completely surprised Argyll, who having no apprehension of a sudden attack had gone to dine with Lord Mar in the Castle. Ere dinner was ended he received intelligence of Monroe's approach, and managed to make good his escape by the bridge. The incident is well known. This passage still exists between the Churchyard and Cowane's Hospital.

THE HANGMAN'S ENTRY

Is that one shown somewhat indistiuctly in the town wall behind the Royal Infirmary. Tradition ascribes to it the name of the Hangman's Entry, because, to avoid the crowd, the finisher of the law is said to have conducted his victim by this entry to the place of execution at the "gallous mailing," now the ground occupied by the Black Boy Fountain. The story is not a likely one, and the tradition is not of older date than the end of last century. At that time the "gallous" was a standing institution at what is now the fonntain, and it continued to stand there till sometime in the present century. This door is much older than the tradition. We cannot say how old it is, but there are reasons for believing this is the same door referred to in a petition by William Urquhart in 1729. The door or gate had been built up and not made use of, and the petitioner desired to get the use of it by opening it up. The Council granted the petition, the entry to be private, and only during the pleasure of the Council.

OTHER PRIVATE ENTRIES.

On 12th August, 1734, the Town Council allowed "William Christie, merchant and dyster, in Stirling, to strick throw ane entry through the town wall near the Burrows-gate, by ane of the old gun ports —with this provisioun that whenever the Council shall find it necessary they may close up the entry at pleasour." These passages would all be built up

at the rebellion of 1745. No more privileges of this kind were granted till 1780, when the Council allowed William Jaffray, writer, who lived at the head of the Fleshmercate (St John Street), to strike through a door from his garden (probably where the Military Prison is) to the Back Walk. On 8th June, 1799, Charles Randall (printer and publisher), and James Thomson, jun., are allowed a similar privilege. These entries are still in existence, a little lower down than the Erskine Church opening. All the other openings or doors are of recent date, the only public one being that at the Corn Exchange, which was opened somewhere about fifty years ago. As none of them possess any special or public interest we pass on to say a few words on the Back Walk.

THE BACK WALK.

No paper on the Town Walls can be considered complete without some reference being made to one of the glories of Stirling, we mean the Back Walk. As is well known, the term Back Walk, embraces not only the walks but the whole "brae" or slope extending from Allan Park to the Mote Hill, and especially the whole slope or brae, from Allan Park to the Haining. Our forefathers were more correct when they styled it the "back brae," the "south brae," and the "south Craigs." The brae is divided into sections, belonging to different proprietors. The section extending from the Mote hill to the western boundary of the Haining belongs to the Crown. The "Haining" itself, that is the beautifully wooded portion above the King's Knot, was gifted by the Crown to Annabella, the widow of the Regent Mar, in 1582, and still remains in the family. The Back brae proper, of old, extended from the Haining to the "nuke of the greyfriars' dyke," that is to the junction of the Infirmary grounds, with the Trades Hall area. The remaining portion between the back brae proper and Allan Park, of old formed part of the Park acres, but is now incorporated in the back brae, and both sections belong to Spittal's Hospital. The Allan Park section belonged to Allan's Mortification, now transferred to the Educational Trust. Prior to the Reformation the back brae was called the Rood Brae, the land being cultivated, and the revenue derived therefrom went to the support of the Rood Altar in the Parish Church. At the Reformation it came into the hands of the Town Council. In 1581 the Provost, baillies and counsall of the burghe of Strlviling. . . . "according to the dewetie of all guid christianis, being of compassion and

movit with pitie (pity) upoun the puir in hospitale within the said burghe, and willing for their support of liberall almous, to bestow ane memorie of our zeall thairupoun being convenit in the tolbuythe of our said burghe, within the counsall hous of the samyne, the twentie nyne day of Maij the yeir of God jmvc fourscoir ane yeiris, concludid, decernit, and ordanit that ane chartour be maid be us to the puire in the said hospitale of all and haill the piece Craigis, callit the Ruid Brayis, lyand within the territorie of the said burghe and boundit as follows; . . . upon the southe side of the said burghe, betuix the conmoun dyke of the said burghe upoun the north pairt, the Ruid Croft upoun the south pairt, Kingis dyke upoun the west, and the nuke of the Greyfrier yarde dyke now pertening to the said hospitale on the eist pairtis." The brae continued to be cultivated and let for about a century after this, and the revenue arising therefrom went to the relief of the poor of the burgh hospital. The back brae played an important part in the defence of the town, and for centuries no trees were allowed to be planted on it, especially near the Wall.

THE UPPER WALK.

To William Edmonstone of Cambuswallace, * or as he was more familiarly called, the Laird of Cambuswallace, belongs the honour of having conceived the idea of this beautiful walk. About 1725 he left Cambuswallace, which was in great beauty, having surrendered it to his son upon his marriage. (Cambuswallace was a small estate a short distance beyond Doune, now merged into the Earl of Moray's estate.) He lived afterwards in Stirling, where, while walking on the Castle hill he used to cast many a wistful look towards his beloved plantation. During his residence here he took a deep interest in the affairs of the burgh. He was a merchant, but he does not seem to have entered with the Guildry, and of course he could not be a member of the Town Council. He suggested to the Town Council the great improvement it would be to make a walk just underneath the Town Wall, from the "Back Brae Close," now the entrance to the High School as far along as the west end of the Ladies Rock or the

* Ramsay of Ochtertyre says of him, "He was a remarkable character in his day. Instead of spending his time in country sports, or carousing with his neighbours, he delighted in rural occupations and embellishments, when those were in very low repute among his countrymen. He died in 1748, aged eighty-nine."—(Scotland and Scotsmen in the eighteenth century.)

valley, as it was then called. The Council accepted his suggestion, and in 1724 the work of making this portion of the Walk was carried out under the Laird's superintendence, but at the expense of the town. In 1725 "the sum of twelve pounds Scots. was given by the Patrons of the Nether Hospital to the Laird of Cambuswallace and James Watson, merchants, for defraying the expense of planting trees on the Walk in the back brae." The Town Council were so pleased with the walk, that on 1st May, 1742, they appointed the treasurer "to cause putt up a stone in the back walk, in such part thereof and with such an inscription thereon as William Edmonstone of Cambuswallace, who first contrived the foresaid walk, oversaw the making of it, and has taken the trouble of keeping it in repair ever since, shall point out and direct." The place chosen was a sheltered spot near to Cowane's Hospital. where the stone seat and inscription may still be seen. To him also belongs the honour of planting the back brae with trees, although we cannot help thinking that several trees were planted before his day. We find on 7th November, 1767, it was reported "that the old trees in the back brae greatly impede the growth of the young ones, authorise the office-bearers to cause prune, and wid the said trees, and dispose of such as are cumbersome, the 'wild-cat tree' excepted. What kind of tree the "wild cat tree" was or where it was situated, we have not the slightest idea, it was evidently a tree with a story, in which a wild cat played an important part. In 1791, the Council resolved to make the walk from the High School entry down to the Burrows gate. This was done by subscriptions from a few of the leading merchants, supplemented by a payment of £10 from Cowane's Hospital and a smaller payment from the common good. In 1798, a sum of £30 was granted by the Council for making the walk from the valley by the back of the Castle to Ballengeich, also for paying surface damages to the tenants through whose lands it passed. The remaining portion from Ballengeich to the Mote Hill was not properly made till the year 1832. In that year a gentleman named Captain Gilfillan died, leaving a sum of £182, invested at 4 per cent, to be applied to making this part, and maintaining the walks in repair in all time coming. The lower walk as far as the Butt Well, is also old, but we have seen no record of the making of it. Within our own time great improvements have been made on the walks, widening them and otherwise improving them, making them what

they are to-day, perhaps the finest and most interesting walks of any town in the kingdom.

THE PRESENT WALL.

We now bring our paper to a close with a few remarks on the Wall itself. In doing so, the first thing that strikes us is the care with which the builders went about the building of it. Every part of the Wall, south, east and north, is founded upon the rock, and built so near the ridge as to leave little or no foothold at its base. No matter how irregular might be the line, they followed the rock and built upon it. This irregularity accounts for the Wall being higher at some places than at others. Taken at an average it would be about twenty feet in height, and from five to six feet in thickness. Any one can see at a glance that there are portions of the south Wall which do not form part of the Wall of 1547-8. Take for instance the Wall at the Trades Hall area, we have it on record that this portion fell down in 1685 and after being rebuilt, it again fell down in 1700, when it was again rebuilt at an expense of £92 10s. The Wall at the Corn Exchange was built about 1812. The dome roofed structure behind Allan's school is also modern. When building the school we had the curiosity to dig in the floor of this place, and the first thing we came against was a great tree root, which had been left when the tree itself was cut down. The tree had been about thirty inches in diameter, and must have grown there long before the building had been roofed over. We ceased digging as the floor was full of roots. The Wall opposite the Guild Hall bowling green seems also to be modern. With these exceptions including perhaps a few feet on the the top of the Wall, the remaining portions of the south Wall, say from the Military Prison to the High School opening, that portion upon which the Trades Hall gable rests, then from behind the Royal Infirmary down to the fire engine shed, and all beneath the Corn Exchange square, may be said to belong to and form part of the original or Pinkie Wall.

THE EAST WALL.

Of the east Wall erected during the minority of James VI. little remains. The exigencies of trade and building extensions have caused the removal of the greater part of it. Fortunately a most interesting portion of it is still preserved in Messrs Kinross & Sons carriage works. It consists of a circular portion of the Town Wall about forty feet in dia-

meter, on the inside of which is a large apartment, roofed over with a strong arch of irregular stone work. Its internal dimensions are twenty-seven feet by twenty-one feet, with a height of about twelve feet from the floor to the centre of the arch. Underneath the floor there is a vault or dungeon hewn out of the solid rock. It is covered with a strong rough stone arch, and measures eleven ft. by seven, and seven feet high to the underside of the arch. Not a ray of light enters the vault, the only access to it being by an opening in the arch. On the floor at one side of the cell, a bench of rock has been left which might serve for a seat, and near it is a place roughly shaped like a basin, which, before certain alterations were made is said to have always contained water. The interesting character of this building is further enhanced by the fact that on the outside near the southern angle of the circular Wall may be seen what appears to be an old gun port or it may be a reconnoitring port. This opening, which measures 30 inches by 11 inches in height, diminishes in size as it enters the Wall. On opening it up we found a chamber in the heart of the Wall filled with loose stones. It would enable the defenders to keep a look out during a seige, and protect and guard the town from attack on the south-eastern side. This old building is called the round house, and is traditionally said to have been used as a guard house during the reign of James VI. So far as we can see, the tradition seems to be well founded. The building seems suited for the purpose, and the vault is simply a "thieves' hole" constructed in the manner of the period. Indeed, one can hardly conceive it possible that any body could have been imprisoned here for any length of time and live. Mr Ramsay, in his book already quoted, says, "These pits or thieves' holes were, however, a reproach to humanity, confinement in them being too great a punishment before conviction for almost any crime. And in the hands of men whose resentment knew no bounds, they proved engines of horrid oppression. There in the aristocratical times, many helpless innocents were allowed to languish unheard, victims of the malice or caprice of petty tyrants. There, too, private enemies, taken with arms in their hands, were ungenerously thrown, without any regard to rank or merit. In process of time those enormities were corrected in the country, but they subsisted in the Highlands within the memory of the last generation, and all over Scotland, pits were accounted legal prisons for thieves and other

meaner criminal still the Jurisdiction Act passed in 1748." *

We have thus at considerable length laid before you all we have ascertained regarding the town wall. It may not be so full of interest as other important buildings in the burgh, but it has an interest of its own, and the historical associations with which it is connected and which may be said to have caused its erection render it worthy of preservation. It may not now be considered of much importance as a defence, yet it was deemed a mighty work in its day, and for centuries afforded a sense of security to the town itself. Two things favour its continuation as an object of interest. These are first—its pecular situation, built as it is on the rocky ridge, it separates the old town from the new, and preserves in a remarkable degree the amenity of the burgh. It is still useful as a retaining or boundary wall, and no one can say it is an obstruction. which ought to be removed. Second and more important is the fact that the town still holds the right of property in the wall. Adjoining proprietors have the use of it as a garden or boundary wall, but it is satisfactory to know that they cannot alter or remove it without permission from the Town Council. Neither can the Town Council alter or remove it so long as the proprietors retain their right of usage. We may, therefore, reasonably hope that the wall may long be allowed to stand as a memorial of the past history of the burgh, and a witness to the struggles of our forefathers for independence and freedom.

The monthly meeting of this Society was held in the Y.M.C.A. Institute on Tuesday evening, 19th December, Mr James Todd presiding in the absence of the president. The minute of previous meeting having been read and sustained, the Chairman called upon Mr Andrew M'Lellan, M.A., of Stirling High School, to read a paper entitled, "An inquiry into the origin of the term 'King's Knot.'" Thereafter, Mrs Hogg, of the *Stirling Journal*, read a paper on "The burning of the Douglas Room of Stirling Castle in 1855." Both papers were intensely interesting, being, in different ways, valuable contributions to the elucidation of our local history. Several members having spoken, the thanks of the meeting were, on the motion of the Chairman, conveyed to Mrs Hogg and Mr M'Lellan. A vote of thanks to the Chairman terminated the proceedings.

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* Page 93-94, Vol. II. Ramsays MSS.

INQUIRY INTO THE ORIGIN OF THE TERM "KING'S KNOT."

By Mr M'Lellan, High School.

Mr Shirra has placed among our records an admirable paper on the King's Knot, at the close of which he says:—"I have said nothing about the name by which this Round Table is now known—the King's Knot. We have the English word "knoll," the Scottish "knowe" and the Celtic "knoc" all meaning a low round hill. I do not know if "knot" has any affinity with these." This quotation must be my apology for offering for your consideration the following brief notes. The term knot has survived all other renderings. From among the many allusions made to this interesting feature in our local scenery between 1770 and the close of last century—the Nimmo period—I select these made by the distinguished English antiquarians, Grose, Pennant, and Gough.

I. Grose's Antiquities of Scotland (vol. ii. p. 238). "At the east end of the Park was a royal garden; vestiges of the walks and parterres still visible. In the garden is a mount of earth in form of a table, called the Knot, where, according to tradition, the court sometimes held Fêtes Champêtres."

II. Pennant's Tour in Scotland (1772.) "Beneath, on the flat, are seen vestiges of the gardens belonging to the Palace, called the King's Knot, where, according to the taste of the times, the flowers had been disposed in beds and curious knots, at this time very easy to be traced in the fantastic forms of the turf."

III. Gough's Camden's Britannia (1789 vol. iv.) "The royal park was extensive and formerly surrounded by a stone wall: at the north east part are an orchard, and vestige of large and spacious gardens, the parterres called the King's Knot from the disposition of the parterres (as till very lately at Windsor), and a labyrinth called the Banquetting house." According to these writers the King's Knot was the name usually applied to this portion of the royal gardens at Stirling, and was understood as having been connected with a curious disposition of flowerbeds or parterres, and adapted for the celebration of fêtes champêtres. That the term knot was not local, but was a well understood expression in garden phraseology was made apparent on further research. Evelyn and Bacon, enthusiasts in horticulture, were acquainted with the word, and mention knots as characteristic of gardens attached to royal or palatial residences.

IV. Evelyn's Dairy, 1644, (in a passage descriptive of the Palace of the Luxembourg, Paris.) *a.* "The parterre is indeed of box, but so rarely designed and accurately kept cut that the embroidery makes a wonderful effect to the lodgings which front it. 'Tis divided into four squares and as many circular *knots*, having in the centre a noble basin of marble, near thirty feet in diameter, in which a triton of brass holds a dolphin that casts a girandole of water near thirty feet high playing perpetually." *b.* "Next the street side and more contiguous to the house are knotts in trayle or grass work, where likewise runs a fountain.

V. Lord Bacon's Essay on Gardens (No. 46, Archbishop Whately's Edition), 1612. *a.* "As for the making of knots or figures, with divers coloured earths that they may lie under the window of the house on that side on which the gardens stand they be but toys. The garden is best to be square encompassed on all the four sides by a stately arched hedge. I wish in the very middle a fair mount with three ascents and alleys enough for four to walk abreast, which I would have to be perfect circles, without any bulwarks and embossments, and the whole mount to be thirty feet high, and some fine banqueting-house with some chimneys neatly cast, and without too much glass." So well known was the term in Elizabethan times that we find Lyly, the dramatist, and Stow, the antiquary, employing it to give point and clearness to expression.

VI. Lyly's Play "Alexander and Campaspe" (1584), Act iii., sc. 4. Apelles speaks:—"For as in *garden knots* diversity of odours makes a more sweet savour, or as in music divers strings cause a more delicate consent, so in painting—the more colours the better counterfeit.

VII. "Stow's Chronicle" (1525-1605). In describing the mythical Rosamond's Bower at Woodstock near Oxford—borrowing evidently from the chronicler Brompton, who lived a century earlier, and who calls it a bower of wonderful contrivance, and not unlike the Daedalean labyrinth—he says:—"The house after some was named Labyrinthus or Daedalus' work, which was wrought like a *knot in a garden*, called a maze." Treatises on gardening were written before the days of John Claudius Loudon and Thomas Whately, who did so much to create a taste for landscape gardening. The list, however, is not a large one, gardeners probably believing with Loudon's contemporaries that bookmaking fellows teach the gentry everything, and that masters and mistresses would know more

than they did. In my search for an Elizabethan production I failed to find a copy of Mountain's Gardener's Labyrinth, which professed to contain "plates exhibiting knotts and mazes cunningly handled for the beautifying of gardens." The next best book came in my way, however, the sixth edition, 1676, of a small work originally published in 1626, and written by a practical Yorkshire gardener. It is entitled "A New Orchard and Garden, or the Best Way for Planting, Grafting, and to make any ground good for a Rich Orchard: Particularly in the North, and for the whole Commonwealth as in Nature, Reason, Situation, and all Probability may and doth appear, the Country Housewife's Garden for Herbs of Common Use, their Virtues, Seasons, Profits, Ornaments, *Variety of Knots*, Models for Trees and Plots for the best ordering of Grounds and Walls, as also the Husbandry of Bees." The author has not much to say about knots. He thinks that the number of forms, mazes, and knots are so great, and men are so diversely delighted, that "I leave every housewife to herself—especially seeing that to set down many had been to fill up much paper; yet lest I deprive her of all light and direction, let her view these choice new forms, and note this generally, that all plots are square, and all bordered about with Privet, Roses, Thorn, Rosemary, Beeflowers, Hyssop, Sage, or suchlike." There had once been five pages of "these choice new forms." Some interested literary reiver, however, had so mutilated the book that only the fifth page, containing three forms, was left for students of knots to contemplate. One of these was the well-known mystic circle with its two inscribed equilateral triangles, and a fountain for a centre-piece. The others shewed, confined within the limits of a square, endlessly intricate curved or straight alleys, suggestive of a labyrinth. He quaintly adds:—"Mazes, well framed, a man's height, may perhaps make your friend wander, in gathering the berries, till he cannot recover himself without your help." He also suggests that rosemary, lavender, bee-flowers, hyssop, sage, thyme, cowslips, peony, daisies, clove-gilliflowers, pinks, southernwood, lilies, are comely and durable for squares and knots. It would thus appear that the word knot, as a garden term, was applied to that part of the garden where the flower, grass, or ivy parterres were arranged in more or less intricate fashion around some central object—a fountain, a mount supported banqueting-house, or other attractive centrepiece. The whole area was

the knot, the centre-piece might be a mount or knock. In this way an intelligent rendering may be given to the apparently contradictory or confused statements of Grose, Pennant, Gough, and their imitators. The Knot having been merely agarden ornament, you might permit me briefly to glance at a few allusions to mediæval and Renaissance notions about garden making.

THE GARDEN.

Dr Andrew Borde (Andreas Perforatus), in his Dietarie of Health (1542), has a suggestion about the planning of a garden as an adjunct to a palatial residence. "An orchard of sundry fruits is convenient, and a garden filled with aromatic herbs. In the garden a pool or two for fish. A park filled with deer and conies. A dove house is also a necessary thynge about a manyson house. And among other thynges a Paire of Buttes is a decent thynge about a manyson. And otherwise for a weak man necessary it is for to passe his tyme with bowles in an aly." Nearly a century afterwards Lawson propounds a similar plan. He recommends both an orchard and a garden, with its subsidiary herbery or herb-garden, and gives a list of suitable fruits, herbs, and flowers. He would give more space to the orchard than to the garden, and would have the large walks broad and long, close and open like the Tempe groves in Thessaly, raised with gravel and sand, and having seats and banks of chamomile. He would "shape the lesser wood to the shape of men armed in the field ready to give battle, of swift-running greyhounds, or of well-scented and true-running hounds to chase the Deer or hunt the Hare. To have occasion to exercise within one's orchard it should be a pleasure to have a bowling-green, or rather, which would be more manly and more healthful, a pair of Butts to stretch one's arms." And he would highly commend the orchard if "either through it or hard by it there should run a pleasant river with silver streams where one might sit in the mount and angle a speckled trout, sleighty eel, or some other dainty fish, or if there should be a Moat whereon one might row with a boat and fish with Nets." Lord Bacon thinks a garden the purest of human pleasures, and gardening finely not so easy as building stately. He would have a winter garden with its evergreens and all indigenous fruits and flowers in their season. He likes fountains but would not have pools. They make the garden unwholesome, become full of frogs and mar all. He would not allow fish in the

fountain basins, but would have the water in perpetual motion so as not to gather mossiness or putrefaction. He thinks that there should be shaded alleys hedged at both ends and finely gravelled. The garden too, should be square, ten acres in area, and encompassed on all the four sides with a stately arched hedge. Between the house and the garden there should be a close shaven grassy lawn extending to four acres, and beyond the garden a wilderness of eight acres planted with clumps of low growing plants, and sweet-scented and sightly flowers. He too gives a list of suitable flowers, trees, and shrubs, but dislikes the *Ars Topiaria* which Lawson becomes so enthusiastic about. "I, for my part," says he, "do not like images cut out in juniper or other garden stuff." He does not object to devices in the flower garden. but they must not be too elaborate. He is fond of arbours with seats in cosy nooks.

Skelton, the most brilliant poet in Henry VII's reign was famed for his gnomic poems written to adorn, like ring posies, not only the walls and ceilings of the castles of his patron, the 5th Earl of Northumberland, but also the sides of the garden-houses. They were of this nature. To every tale give thou no credence. Prove the cause or thou give sentence. Trust in God ; He is most true. Be thou content : thou art 'bove Fortune's fall. Esperance in the world ? Nay ; the world varieth every day.

In his *Crowne of Lawrell* he ventures upon the description of the garden attached to the Palace of Fame. The birds sang among the trees on every side. The alleys were sanded throughout. The banks enturfed with pleasing grass and enclosed by rose trees and grape laden vines. In the midst was a fountain (cundite) that was made up of golden pipes from which streamed water clear as crystal and in whose basin swam roches, ba.bels, and breams with scales glistering in the sun. All flowers and fruits grew there in their kind. One of the prettiest garden pictures that the poetical literature of the early Renaissance period has given us is to be found in Bishop Gavin Douglas's Prologue to the xiith Book of the Æneid. It is that of an early summer morning when

Bliafull blossumys in the blomyt yard,
Submittis thar hedis in the yong sonnys salfgard,
Sum peres, sum paile, sum burnet, and sum blew,
Sum greyce, sum gowlys, sum purpour, sum sanguine,
Blanchit or broune, fauch yallew mony ane,
Sum hevynly culloryt in celestial gre,
Sum watry hewit as the haw waly (blue surging) see
And sum depart in fraklys red and quhite,
Sum brycht as gold with aureat levys lyte.

He mentions the fleur de lis or iris, columbine, primrose, purple violet, roses, and heavenly lilies distilling, "hailsum, sugurat, hunny droppys." "Ane paradyce it semyt to draw neir—thir galzart gardyngs and ilk grene herbere." Chaucer has in his Merchant's Tale described a garden as being so beautiful that "Priapus might not well suffice, though he be god of gardens, for to tell the beauty of the garden and the well that stood under a laurel always green." We are frequently reminded of the proximity of these sequestered resorts to the walls of a castle. Lydgate in his Storie of Thebes (1420), brings Tydeus "all forwounded to a castel strong and myghty, belt upon a roche, with hegh toures with crestes marcyale." Almost adjoining the wall was a gardyn lytyl and beside

> Into which Tydeus gan ride
> Of aventure by a gate smal,
> And then he fonde for to rekon all,
> A lusty herbere unto his devise,
> Soote and freshe liche a paradys.
> Very hevenly of inspectioune."

Somewhat similar was the position of the garden described by King James I. in his autobiographical allegory, the Kingis Quhair (1423). The window in Windsor Castle from which at early morning he looked out

> "To see the warld and folk that went thereby,"

commanded a view of a small garden that lay at the foot of the tower, and was adorned with a green herbery and trellised alley, screened from the gaze of wayfarers by trees and hawthorn hedges. Chaucer's Knightes Tale, too, has a sketch of a garden adjoining the castle wall of Thebes, into which, at the uprising of the sun, his heroine Emilia repaired to do her observance to May, gathering flowers, partly white and red, to make a "sotil gerland for hire heede," and singing all the while like a heavenly angel. His Troilus and Cressida contains this picture of a palace pleasure garden.

> "The yerde was large and railed alle the aleyes,
> And shadowed wel with blosomy bowis greene,
> And benched newe, and sondid alle the weyes."

The mention of Chaucer's Knightes Tale suggests Boccaccio's delightful picture of a fourteenth century Florentine garden—the pleasant resort of the cultured group whom he feigns to have told the hundred tales of the Decameron. The passage, which is in the introduction to the third day, may be roughly condensed thus:—Coasting on one side the palace was a garden enclosed with high mounted walls. It was a beautifal garden; and, therefore,

they examined it the more attentively. The walks and alleys were spacious, yet straight as an arrow, environed with spreading vines, whereon the grapes hung in copious clusters. By the side of the paths grew red and white roses and sweet jasmine that let the morning light pass through but gave overhead an odorous shade from the noon sun. In the midst was a square plot flourishing with herbs and plants, besides a thousand diversities of flowers. In the centre stood a fountain of white marble whereon was engraven most admirable workmanship, and within it, flowing from a figure standing on a column in the midst of the fountain, such abundance of water that it was a wonder to behold. The sight of this garden, the goodly grafts, plants, trees, herbs, fruitages and flowers, the springs, fountains, and pretty rivulets streaming from it so highly pleased the ladies and gentlemen that they spared not to say if any paradise remained on the earth to be seen it was contained within the compass of this garden.

Very few glimpses of monastery gardens are to be found in pre-reformation literature. The author of "Peres the Ploughmans Crede" (circa 1394) alludes (line 166) to a typical Dominican convent as having

"Orcheyardes and erberes evesed (edged) wel clene,"

and Sir Walter Scott (Kenilworth ch. iii.) in attempting negatively to recall the glories of the neglected abbey grounds of Cumnor Place can add nothing from his researches to the details furnished by the poets of the middle ages and the Renaissance. The orchard trees, he says, abandoned by the care of man, were overgrown and mossy and bore little fruit. The greater part of the ground which had once been parterres and flower gardens had been suffered to run to waste. Statues which had ornamented the garden in its days of splendour, were overthrown and broken in pieces, and a large summer-house having a heavy stone front decorated with carving, representing the life and actions of Samson, was in the same dilapidated condition. Gardens, as I have described them, have, however, been one of the many gifts of the monastic system. The most cultured members of these religious fraternities were natives of France or of Italy, or had been educated there. Their gardens in Britain were attempted realizations of the charming paradises of the sunnier South, and these again were modifications of the luxurious pomaria of the wealthy Romans of the days of the emperors.

Fish Ponds and Canals —The typical good old English gentleman of the Canterbury Tales period

had "many a brem and many a luce (pike) in stewe (fish-pond)." Three centuries afterwards, in spite of Lord Bacon's expressed dislike to it, the stewe or fish-pool was in vogue as an adjunct to princely mansions. Lawson prefers two pools, about eight feet deep, with sides and bottom lined with sods of flot-grass. He would place roche, dace, minnow, and miller-thumbs in both, being excellent food for their larger fellows—the carp, bream, and tench of the one pool, and the pike, perch, eel, and tench of the other. He would keep them constantly supplied with fresh water from a passing canal or stream, and have them cleaned out at least every seven years. To fatten the fish suddenly he would throw in, morning and evening, blood of animals, brewers' grains, curds, and any corn whatsoever. His receipt for catching fish in numbers is quaint. "Take sal-ammoniac, chives, and calves' kell; make pellets, then cast your net."

Barge-Sailing.—This favourite aristocratic pastime in connection with gardens in the days of the Stuart kings, is admirably sketched in the romantic ballad of the "King's Daughter of Hungary and the Knight of Low Degree." These are among the delights promised by her royal father to the lovelorn maiden :—

> "Then shal ye go to your suppere,
> And sit in tents in gren herbere.
> A hundred knights truly told,
> Shal play with bowles in alayes cold,
> Your disease to drive awaie.
> To se the fishes yn poles plaie,
> To a drawbrydge then shal ye
> Thone half of stone thother of tre.
> A barge shal mete you ful ryght
> With four and twenty ores ful bryght,
> With trompettes and with claryoune,
> The fresh water to rowe up and downe."

The Herbery.—Lord Bacon names the plants best suited for an herbery, and so does his contemporary, Mr Lawson. Among others are noted Angelica, Tansy, Lovage, Bugloss, Wall-flower, Sweet Violet, Feverfew, Alexanders, Lettuce, Pellitory, Valerian, Sweet Cicily, and Carduus benedictus. The latter author propounds the monkish difficulty, "Cur homo moritur aut salvia crescit in horto?" (Why does man die, or the balm (sage) keep growing in the garden?) He summarizes the healing virtues of most of them, but as regards the Carduus benedictus or blessed Thistle, he refers the inquirer to Herbalists; for, says he, "we are gardeners not physicians." I may note, in passing, the striking resemblance between this herb list and the special

flora of Stirling Castle braes. The cultivation of medicinal plants was an eminent feature of the Herbery. It is only since our boyhood that the term "Physic Gardens" has made way for its more pretentious successor "Botanic Gardens," and it is not disputed that the Jardin des Plantes, so honourably connected with the names of Buffon and Cuvier, was saved from confiscation and annihilation during the French Revolution by the current belief that it existed for the purpose of supplying physicians with the means of battling successfully with diseases.

The Park.—I need hardly allude to the Park as a necessary portion of a royal demesne. It was situated beyond the garden, was enclosed by a stone wall or a wooden fence, decorated with sheltering and ornamental groups of trees, and stocked with deer. The pastimes connected with it were hunting and coursing. Bishop Gavin Douglas (1513), in his Virgil Prologne (Book xii.), tells how "under pleasant boughs in lusty vales, within fermans and parkis cloyss of palys, the bustuous bukkis rakis furth on raw, and herdis of hertis throw the thyk wood-schaw." Lord Surrey (1540) recalling in one of his sonnets the pleasant pastimes of his youth, when residing at Windsor Castle, speaks of "the clothed holtes with grene; with raynes avayled (loosened), and swift ybreathed horse, with crye of houndes and merry blastes betweene, where we did chase the fearful hart of force." The presentation of a stag, as a marriage gift by Henry VII., to his daughter, Margaret Tudor, wife of James IV., illustrates the gentlest form of the pastime. I have already trespassed far beyond the limits I had proposed assigning to this paper; but having traced the word "knot" to Stuart days, and found the limit of its application as a gardening term, I could not refrain from glancing at other adjuncts to the mediæval garden—the Garden proper, the Orchard, the Herbery, the Fish Ponds and Canals, and the Park. I have left much unsaid; but should be glad to learn how far it is possible to reconstruct the plan of the original Royal Gardens in the direction of my ideal.

STIRLING CASTLE: THE BURNING OF THE DOUGLAS ROOM.

SUNDAY, NOVEMBER 18TH, 1855.

BY MRS J. D. HOGG, "STIRLING JOURNAL."

The lecture by Dr Rowand Anderson on "The History and Architecture of Stirling Castle" is still so fresh in your minds, that it is needless to attempt anything in the way of historical introduction to this paper. A brief survey, however, of the scene of the disastrous fire in 1855, by way of localising the incidents of that eventful night, may not be out of place.

The *Old Palace* of Stirling, so designated to distinguish it from the more modern Palace of James V. and his Queen, Mary of Guise, was originally built by the Saxons of Northumbria, who also fortified the Castle of Edinburgh. The kingdom of the Northumbrian Saxons extended during a period of two centuries, to the Forth, and it is probable that the structure which they erected on the Castle Rock, on account of its important position, would be of a highly secure and substantial character. Kenneth III. of Scotland assembled his Council of War here, prior to the battle of Luncarty, which was fought in 973; King Alexander I. died in the building; his successor of the same name established here the law of trial by jury, and William the Lion died within its walls in 1214. It is, however, with the Stuart Kings, that gallant, kingly, accomplished, and most unfortunate race, that the fortunes and history of Stirling Castle are indissolubly connected. Poets, musicians, alchemists, builders, decorators, they successively left their impress not only on this their favourite residence, but deep down in the history of their time. "Looking to their country," says Hill Burton, "their age is a cheerful period in the history of Scotland. Through all its passionate and bloody restlessness the country was advancing in wealth and strength, and taking a place for itself among European nations. It is over the personal history of these kings that there hangs a gloom. Battle, murder, and sudden death, swept away four of them, and the fifth died of a spirit broken by the weight of calamities."

It was the first of the Jameses who, on his return from captivity in England, made choice of Stirling as a royal residence and home. He repaired and enlarged the rude Palace of his ancestors, which stood on the north-west or more elevated part of the Castle Rock, and added, in all probability, the southern wing. The Douglas room was the royal

closet or bed chamber, the elaborately decorated canopy of the royal bed remaining intact during all the changes of centuries till it perished in the fire of 1855. This canopy was regarded by Dr Rogers as the most ancient specimen of wood carving in Scotland. The workman who carved it, had probably been brought from England, the model being the Royal bed in the Palace of Windsor. Surrounding the canopy, which was of square formation, of the same height and dimensions as the four-posted beds of the last generation, was the Latin inscription :—*I. H. S. Maria Salvet rem pie. pia. Jacobus Scotorum Rex.*—which, being extended and translated, may be rendered, "Holy Jesus, Saviour of men, Holy Mary, save the King, James King of Scots."

This closet or bed chamber was the scene in the following reign of the tragedy, from which it takes its name, and with which it will in all time coming be associated. In the Palace of Stirling, James III led a busy life, prosecuting the occult sciences and cultivating an acquaintance with the fine arts. Dr Anderson has told of the famous College of Music founded by him in connection with the newly built Chapel Royal. His successor inherited his father's musical tastes, and among the entries of the King's expenditure there is one for the payment of sixty-nine minstrels, shawm players, trumpeters, drummers, fiddlers, flute-players, harpers, and pipers. He pays to William Sangster of Linlithgow the large sum of ten pounds for a "song book," and rewards by gift or salary a band of English pipers who played at his gate with the sum of £8 9s 8d. He even carried organs with him in his justiciary progress into Eskdale. He also had a passion for alchemy, and in Stirling Palace he had a laboratory and furnace set up, where he toiled night and day in search of the *grand magisterium*. In his experiments James spared no trouble, and in the entries of his Treasurer, are found payments made for costly chemicals from abroad.

In the years that followed the disaster at Flodden, the Royal Palaces of Linlithgow and Stirling seem to have fallen into disrepair, and accordingly a new palace was projected and begun by James V. in 1540 and completed by his widow Mary of Guise in 1552. The interior of the New Palace of Stirling says Dr Rogers in a lecture on "The Palaces of Stirling" delivered to the School of Arts on the 5th December 1855 was equal in elegance to the external walls. Each apartment was suitably and magnificently decorated, and

fitted up with every convenience for domestic comfort, as understood at the time. But the principal apartment was the King's Room or Presence Chamber, which embraced a considerable portion of the first floor of the modern structure. Of this room the walls and ceiling were adorned with a large number of rich and beautiful figures, carved in oak in relief, and having a remarkable variety of fanciful and elegant mouldings. They were executed, it would appear from the Treasurer's accounts, by Mr John Drummond of Drummondernoch, Master of Works to James V. with the assistance of "Andro Wood, Carvour," one of his workmen.

On the completion of the New Palace, during the minority of Mary, Queen of Scots, the old Palace became a lodging for the attendants of the royal household, and after the union of the Crowns it was tenanted by the servants of the nobles who made their abode in the Castle. This accommodation must have been stretched to its utmost capacity on the memorable occasion of the visit of King James VI. to his native kingdom of Scotland in 1617. Professor Masson, in his brilliant article entitled "Ben Jonson in Edinburgh," in the current number of *Blackwood*, sketches vividly and picturesquely the *personnel* of His Majesty's retinue on that occasion. "Young George Villiers, then Earl of Buckingham, afterwards Marquis and Duke of Buckingham, was with him; and though we may think little of that now, all England thought of it then, for Buckingham was the King's all-powerful favourite, and wherever *he* might go, all English eyes kept him in sight. The stately Thomas Howard, Earl of Arundel and Surrey, was in his Majesty's train, as were other two English earls, of whose advent into Scotland on this occasion one hears with particular interest because of their celebrity in English literary history. One of them was Henry Wriothesley, Earl of Southampton, the early patron of Shakespeare, to whom in his youth Shakespeare had dedicated his "Venus and Adonis" and his "Lucrece," and the other was William Herbert, Earl of Pembroke, supposed to be the Mr W. H. of Shakespeare's sonnets, a special admirer of Shakespeare, and on terms of intimacy with him while he lived." Besides these four English earls, there were with the King a number of lesser stars—"barons and knights, three English bishops, and not a few minor English ecclesiastics, among whom was Dr William Laud, not yet a bishop, but a busy man and a propagandist, of peculiar ecclesiastical

views, of which both England and Scotland were to have ample experience." The King's Stables, so called to this day, were built on the Castlehill, to house the steeds of these grandees. One watches in imagination, the brilliant cortége as it sweeps in stately procession up the narrow streets of our ancient royal burgh.

At a later period the Palace was used as offices, apartments, and chambers for the Deputy Governor and officials of the garrison. Till 1802 the garrison consisted only of about a hundred men, who were commanded by a lieutenant and ensign, all of whom wore a peculiar costume, which was probably—but as Dr Rogers remarks, erroneously believed to have been introduced by Mary of Guise. This costume consisted of red coats, red breeches, long black leggings, and a small French looking cocked hat. The Douglas Room formed part of the "Governor's House," and, as Dr Galbraith mentions in his "Recollections," was, with the adjoining apartment to which it had been at some previous time added, used as a drawing or reception room by Sir Archibald Christie, the last Deputy Governor of Stirling Castle, who died in August, 1847. In 1855 at the time of the fire it was the Mess Room of the Stirlingshire Militia.

THE BURNING OF THE DOUGLAS ROOM.

At 11 o'clock, on the night of Sunday, the 18th December, 1855, the inhabitants of Stirling, many of whom had not yet retired to rest, were startled by the cry, shouted through the streets, as the fashion then was, that the "Castle was on Fire." The fire had its origin in a room in the Douglas Block, occupied by Ensign Fawkes, one of the subalterns in the Stirlingshire Militia. It was first observed by Major Finlay of the same regiment, who, while talking to an officer in the mess-room below, suddenly stopped in his conversation and declared that he felt the smell of burning wood. He immediately proceeded to make a search, and on opening the room in the flat above, occupied as has been said by Ensign Fawkes, he found it so densely filled with smoke that entry was impossible. Major Finlay at once gave the alarm to all the officers who had rooms in that portion of the building, and immediately thereafter to the whole of the men in the garrison, and to the troops—Militia—quartered in the town. In a very short time hundreds of men were on the spot and Captain Kenny,—Adjutant of the Stirlingshire Militia or Highland Borderers—having been roused, at once

took the command. All hands were forthwith set to work, both the Castle fire-engine and that of the town were speedily brought to the ground, while water was ordered to be pumped from all the wells in the Castle.

The scene which followed, we are told, baffled description. The night was pitch dark, the natural darkness heightened to a dense blackness by a thick haze, while the suddenness and entirely unexpected nature of the occurrence, had left no time to procure torches or other means of artificial illumination. Only two weeks before the fire, the Engineer Department had refused to provide gas for this portion of the buildings, and the work had now to be carried on by the miserably inadequate light of a number of candles. Officers and men hastened into the burning structure with buckets of water in the hopes of arresting the fire, and of keeping it within the quarter where it originated. All efforts were, however, found useless, the fire gained a complete mastery, the floors were beginning to give way, while burning brands and showers of molten metal were falling upon those who were boldly persevering in their attempts to check the progress of the flames. Meanwhile, the town's engine was, as usual, found to be out of repair, and the Castle engine, though in tolerable order, could only receive a supply of water by means of buckets. A drizzling rain, which now began to fall, did little to check the progress of the flames, but added much to the discomfort of the troops engaged in quenching them. In the course of a few hours, in spite of every effort, the fire reached the top of the building, sending forth volumes of flame which shed a lurid brilliancy on the whole scene. The fire-engines had for sometime been playing on the roof, but every effort to save it proved of no avail. An attempt of a different kind was made to prevent the spread of the conflagration. Captain Kenny having seen that it was impossible to save the part of the palace in which the fire began, now took steps to prevent the rooms immediately adjoining from catching fire, and he accordingly ordered the communication to be cut off by pulling down the houses on either side. Unless for the comparative stillness of the night, and the absence of wind, the attempt would have been practically useless. Had a strong wind been blowing from north or west, the whole structure of the castle would have perished.

As it was, one half of the old palace of the Jameses, and that the most interesting half, was destroyed. The other or southern portion was saved

through the gallant exertions of Lieutenant Dawson of the Berwickshire Militia, who, accompanied by a party of men, ascended the roof, and with hatchets cut off the communication there. Lieut. Dawson, after descending, made a resolute effort to save the Douglas Room, the principal point of interest in the old building. His party, with great exertions kept the flames at bay for a time, but eventually the whole was wrapped in fire and completely destroyed. About 2 a.m. the fire was at its height, the roofs fell in with a fearful crash, throwing up dense clouds of smoke and burning embers, and at this period the flames, must, from the commanding position of the castle, have been seen for many miles round. The communications with the southern portion of the palace, having been cut off, the flames began to be got under, and by eight o'clock were very much subdued. Till long after this hour, however, the engines played on the smoking ruins, which smouldered on till Monday night, when again flames burst out, which were speedily repressed.

Meanwhile the wildest rumours, as to the origin of the fire, were afloat in the town, some of these attributing it to the pranks of the young officers. They were, however, happily found to be baseless, as at a Regimental Court of Enquiry held in the Castle, by orders of Lord Melville, the General Commanding in Scotland, on Wednesday the 21st, Major Wilkinson, presiding; it was found after examination of a great many persons, "that after 9 o'clock on Sunday evening no person was in Ensign Fawkes's room, that a good fire was left burning at that time, and that the grate was not a sufficient one. It was therefore considered all but certain that the front part of the grate had given way, that the live coal becoming scattered along the floor, had ignited it." The following letter from Major Wilkinson bearing on the verdict was sent to the editor of the *Journal* for publication on the Friday following:—"Sir, having heard many misstatements with regard to the origin of the fire in Stirling Castle on Sunday last, I think it but right to mention through you, the result of a Court of Inquiry, of which I was president, held by order of Major-General Lord Melville. The fire originated in the room of Ensign Fawkes, of the 90th Stirlingshire Militia, over the Douglas Chamber, by the falling out of the front part of the grate, which was previously out of order. No one was in the room after 9 o'clock. The fire was discovered at 11 o'clock. I am, &c., Fred. G. Wilkinson, Commanding the Garrison, Stirling Castle."

Never was the old adage, "For the want of a nail, the shoe was lost," more strikingly exemplified than in the burning of the Douglas Room. It would appear that the defective state of the grate in Ensign Fawkes's room, had again and again been the subject of complaint, and a new set of fire bars had been repeatedly applied for, but the Authorities refused to sanction this not very extravagant outlay. Then there was the scarcity of water. There seems to have been in the Castle a very complete apparatus for collecting and storing the rainfall, and there were the Castle wells, but both sources, although adequate to the ordinary supply of the garrison, were totally useless in the case of a serious outbreak of fire, the water having to be carried in buckets from a considerable distance.

It so happened that the first meeting of the New Town Council, after the November elections, was held on the Monday night while the fire was still smouldering. There were present: — Provost Sawers, presiding, Bailies Kidston, Rankin, P. G. Morison, and Mouat; Dean of Guild Coubrough; Councillors John Davidson, James Reid, Walter Reid, James Kane, D. Yellowlees, Robert M'Gregor, R. Taylor, James Millar, John M'Ewen, William Graham, Alexander MacDonald, James Burden, and Andrew Drummond. Naturally, the fire in the Castle was uppermost in the minds of all. In introducing the subject, the Provost said that it was a matter about which the Council had a right to make a representation, especially on account of the fact that the scene of the fire was quite close to a large powder magazine, which if it had exploded would have destroyed a considerable portion of the town. He did not intend to make any reference to the reports that were flying about with regard to the origin of the fire, but he thought that they were entitled to ask that the Government would take the water into the Castle to prevent such an occurrence again. The fault did not lie with the Water Commissioners, who had offered to supply the water on very reasonable terms. At a meeting held not four weeks before, with the Barrackmaster, an offer was made of the town's water to the Castle at £45 a year, with the pipes taken up to the Castle gate. If they had had the Town's water in the Castle, this fire, he had no doubt, would have been extinguished in a few minutes. He thought it was their duty to bring the matter strongly under the notice of Government, and petition for a strict investigation into all the

circumstances of the case. Bailie Morison and Councillor Yellowlees having spoken to the same effect, the proposal was unanimously carried. The blame of the destruction of the Douglas Room therefore, lies clearly with the Castle or War Office authorities. A matter of a few shillings in repairing the grate, and an annual outlay of £45 for a sufficient supply of water, and this national loss would have been averted.

As has been said, one great cause of alarm to the inhabitants was the proximity of the fire to the Castle Magazines, where, at the time, some 800 barrels of gunpowder were stored. Besides this, however, a quantity of gunpowder and cartridges for the use of the garrison were stored in the adjacent building to the Governor's House, in all probability the Armoury. Great fears were entertained that there would be an explosion, and the alarm was not confined to the Castle, but spread throughout the town. In Broad Street, some of the inhabitants began to throw their furniture out of the windows, the better to ensure its preservation, and one gentleman's family residing near the Castle, flitted during the night to a hotel in town.

Many instances of personal gallantry are recorded in connection with the fire. Amongst others, Alexander Clacher, a private in the Militia, on being informed that a valuable box of jewellery, belonging to one of the officers was in one of the burning rooms, volunteered to attempt its rescue, and proceeding in a most daring mannner into the house, brought it safely away. In the official report by the Court of Inquiry, the conduct of Captain Kenny is most highly spoken of, as also that of Lieutenant Dawson, and Captain Shairp of the Berwickshire Militia, Captain Mosley of the 42nd, and Major Peddie, Staff Officer of Pensioners. The only fatality in connection with the fire occurred in the case of Gunner Haimes, who died a week after from the effects of his exertions and exposure during the night. It is to his efforts that we owe the preservation of the very few fragments that remain of the cornice and canopy in the Douglas Room.

As to the damage to private property, it was estimated that about a thousand pounds worth of furniture, wearing apparel, plate, books, and jewellery, contained in the building was lost. Lieutenant Fawkes lost everything in his room, including uniforms of value and £40 in money. Others of the officers lost largely, in some cases over £150. It was at first thought that the new militia mess plate had

perished, but it was saved, at considerable personal risk by Peter Buchanan, the mess waiter, and James Curran, servant to Ensign Huxon. The loss sustained by the destruction of the building was simply irreparable. Dr Rogers, then Military Chaplain in Stirling Castle, puts the feeling of the inhabitants of Stirling and all patriotic Scotsmen into words in a letter addressed to the Editor of the *Journal* on the Wednesday after the fire :—

"The lamentable fire of Sabbath evening," he writes, "has deprived Stirling of one of its most interesting objects of antiquity,—the Douglas room, a loss, I may add, which is altogether irreparable. Only some fragments of the curious canopy have been preserved, along, I believe, with charred portions of the cornices, which were picked up among the ruins, and are now in the possession of several private individuals. I trouble you with the present communication simply to indulge in the language of lamentation ; and to express those feelings of regret which, on the present occasion, are shared by the majority of my townsmen. I have looked upon the wreck of the oldest of our Royal Palaces. I have seen the charred remains of the oldest specimen of woodcarving in Scotland, and I cannot but feel that a national loss has been sustained. Poor Scotland ! thy sons glory in thy antiquity, and in the possession of tangible memorials of thine ancient chivalry, but these latter—one after another—are being snatched away ! Look at the modern history of Stirling and its neighbourhood, as illustrations of this fact ! Unless for the enterprise of a lady, the beautiful oak carvings of the new Palace of Stirling had been, fifty years ago, entirely broken up and lost. As it is, the majority of them are scattered. The old Parliament House of James III. has been barbarously modernised, and not a portion of its furniture exists. Those few portions of the Chapel Royal which remain are so kept as to be little else than objects of ridicule. Argyle House, in the interior, retains only its old oak staircase, and its beautifully carved chimneys ; Mar's Work sold to a builder forty years ago for the sake of the stones, was re-purchased when half demolished, and all the fine old buildings in Broad Street have been modernized.

The Old Mint, at the foot of St John Street—(demolished since Dr Rogers wrote)—is now conspicuous as the Inkerman Tavern. In the neighbourhood of the town, *Wallace Oak*, in the Torwood, and the Yew Tree at Grahamston, where fell the gallant Graham, have, within the period of human recollection, become victims to the knives of the

curious, and the hammers of the same parties have unwarrantably destroyed a large portion of the Bore Stone at Bannockburn, the Gathering Stone at Sheriffmuir, and the whole of the stone on the Wallace Ridge, where the great Scottish Chief witnessed the approach of Edward's army on the eve of the battle of Falkirk. So it reckons but little whether our antiquities shall be preserved from the hostile influence of the elements; if they perish not in such a manner as have done the Old Palace of Stirling and the Douglas Room, Scotsmen will contribute to their destruction with their own hands."

MEMORIALS OF THE TWO PALACES.

I have tried to trace existing relics of the Old and the New Palaces of the Jameses, and through the kindness of Mr Sword, curator of the Smith Institute, am enabled to exhibit a bit of the cornice of the Douglas Room, possibly one of the fragments rescued by Gunner Haimes. It came to the Institute as part of the MacFarlane collection. Another friend has kindly lent for exhibition this handsome writing desk and Post box, made from the oaken beams of the Douglas room, of which there seem to have been a good quantity saved, if we may judge by the number of curios and trinkets, like the "ring stand" now shown, which were on sale in the shops of Stirling, for many years after the fire. Of the oaken panelling and carved medallions, known as the "Stirling Heads," which enriched the presence chamber of James V's Palace, fifteen panels and twelve medallions are preserved in the Smith Institute. The medallions are the property of the town, and in the lecture on "The Palaces of Stirling," already referred to, were described at that time as affixed to the walls of the Court House. Among the number are supposed to be representations of James I., of the beautiful Magdalene of France, the first wife of James V., and of Margaret Tudor, Queen of James IV. Three of the heads are in the Antiquarian Museum, Edinburgh, and there are twelve in the possession of the Marquis of Breadalbane. When the palace was stripped of these splendid decorations a number of the heads were carried off by the wives and children of the Castlehill for firewood. They were sought out and acquired by Lord Hailes, after whose death they became the property of Lords Jeffrey and Cockburn. On the death of Lord Jeffrey, Lord Cockburn purchased his friend's collection, and on the death of Lord Cockburn in 1853, they were acquired by the Marquis of

Breadalbane for £300. They include supposed representations of William Wallace, James IV., James V. and his Queen, Mary of Guise, and Jane Beaufort, Queen of James I. Of the 15 small panels in the Institute, doubtless, also belonging the Palace of James V., Mr Sword says there is no record how they were acquired, or from whom. There are also in the Institute a couple of 17th century oak chairs, labelled as from Stirling Castle, but they have no distinctive features. Dr Paterson, Bridge of Allan, possesses, I believe, one or two chairs and several carvings—Palace relics—; Mrs Galbraith, Glebe Crescent, is the fortunate owner of another royal chair; Mr Dick of Graigengelt, has several chairs and bits of carving in his collection of his historic relics; and in a photograph of a cosy corner in the Dunedin drawing-room of the Right Hon W. Downie Stewart, a Son of the Rock, a chair is figured, which from the carving and crown on the back, and on the foot rail, must, I think, have formed part of the furnishings of the Royal Palaces of Stirling or Linlithgow. A few loose sheets, part of the work—"Lacunar Strivelinense"— a collection of engravings from drawings of the Stirling Heads, made by Mrs Graham, wife of General Graham, Deputy Governor of Stirling Castle,—are also shown.

AUTHORITIES.

Stirling Journal, November 23rd, 1855.
Lecture on "The Royal Palaces of Stirling," delivered by the late Rev. Dr Rogers to the members of the Stirling School of Arts, December 5th, 1855."
Hill Burton's "History of Scotland."
Thomson's "History of the Scottish People."
"Ben Jonson in Edinburgh," by Professor Masson, '*Blackwood*" for December.

PUBLICATIONS OF HER MAJESTY'S RECORD OFFICE.

The council of this society has been successful in obtaining a grant of the number of the publications of Her Majesty's Record Office, consisting of the sixty-seven volumes mentioned below. The published prices of these volumes are such that few have the means of acquiring them privately, and hitherto those wishing to refer to any of them, have been under the necessity of travelling some distance to take advantage of the reference libraries of other towns. The grant now obtained is therefore a valuable acquisition to the town of Stirling, the volumes being lodged in the Library of the Smith Institute for the public use. The books are

of great value to the antiquary, and the student of history, and many of them refer solely to Scottish affairs. The following are the books received.

Accounts of the Lord High Treasurer of Scotland. Vol. I., A.D. 1473-1498. Edited by Thomas Dickson. 1877.

Register of the Privy Council of Scotland, Edited and arranged by J. H. Burton, LL.D. Vol. I., 1545-1569. Vol. II., 1569-1578. Vol. III., A.D. 1578-1585. Vol. IV., A.D. 1585-1592. Edited by David Masson, LL.D.

Rotuli Scaccarii Regum Scotorum. The Exchequer Rolls of Scotland. Vol. I., A.D. 1264-1359. Vol. II., A D. 1359-1379. Edited by John Stuart, LL D, and George Burnett, Lyon King of Arms. 1878-1880. Vol. III, A.D. 1379-1406. Vol. IV., A D 1406-1436 Edited by George Burnett.

Calendar of Documents relating to Scotland, preserved in the Public Record Office. Edited by Joseph Bain. Vol. I. (1881).

Calendars of the Proceedings in Chancery, Eliz.; with Examples of Proceedings from Ric. II. Edited by John Bayley. Vol. III. (1832), folio.

Ancient Laws and Institutes of England: comprising Laws enacted under the Anglo-Saxon Kings, with Translation of the Saxon; the Laws called Edward Confessor's; the Laws of William the Conqueror, and those ascribed to Henry I.; Monumenta Ecclesiastica Anglicana, from 7th to 10th century; and Ancient Latin Version of the Anglo-Saxon Laws. Edited by Benjamin Thorpe.

State Papers, during the Reign of Henry the Eighth: with Indices of Persons and Places. Vols. IV. and V.—Correspondence relating to Scotland.

Calendar of State Papers, Domestic Series, of the Reigns of Edward VI., Mary, Elizabeth, and James I., preserved in the Public Record Office. Edited by Mary Anne Everett Green. Vol. VIII.—1603-1610.; Vol. IX.—1611-1618; Vol. X.—1619-1623; Vol. XI.—1623-1625, with Addenda, 1603-1625.

Calendar of State Papers, Domestic Series, of the Reign of Charles I., preserved in the Public Record Office. Edited by John Bruce, F.S.A. Vol. I.—1625-1626; Vol. II.—1627-1628; Vol. III —1628-1629; Vol. IV.—1629-1631.

Calendar of State Papers relating to Scotland, preserved in the Public Record Office. Edited by Markham John Thorpe. 1858 Vol. I., the Scottish Series, 1509-1589. Vol. II., the Scottish Series, 1589-1603; an Appendix to the Scottish Series, 1543-1592; and the State Papers relating to Mary Queen of Scots.

Calendar of State Papers, Colonial Series. Edited by W. Noel Salisbury, an Assistant Record Keeper. Vol. I.—America and West Indies, 1574-1660. This volume deals with Colonial Papers in the Public Record Office, the India Office, and the British Museum.

Calendar of State Papers, Foreign Series, of the Reign of Edward VI., preserved in the Public Record Office. 1547-1553. Edited by W. B. Turnbull, Barrister-at-Law, &c. 1861.

Monumenta Franciscana. Vol. I. Edited by J. S. Brewer, M.A., Professor of English Literature, King's College, London. The volume contains original materials for the history of the settlement of the Order of St Francis in England, the letters of Adam de Marisco, and other papers.

Fasciculi Zizaniorum Magistri Johannis Wyclif cum Tritico. Ascribed to Thomas Netter, of Walden, Provincial of the Carmelite Order in England, and Confessor to King Henry the Fifth. Edited by the Rev. W. W. Shirley, M.A., Tutor and late Fellow of Wadham College, Oxford. 1858. This work gives the only contemporaneous account of the rise of the Lollards.

The Buik of the Croniclis of Scotland; or, A Metrical Version of the History of Hector Boece; by William Stewart. Vols. I., II., and III. Edited by W. B. Turnbull, Barrister-at-Law. 1858. This is a metrical translation of a Latin Prose Chronicle written in the first half of the 16th century. The narrative begins with the earliest legends and ends with the death of James I. of Scotland, and the "evil ending of the traitors that slew him." The peculiarities of the Scottish dialect are well illustrated in this version.

Historia Monasterii S. Augustini Cantuariensis, by Thomas of Elmham, formerly Monk and Treasurer of that Foundation. Edited by Charles Hardwick, M.A., Fellow of St Catharine's Hall, and Christian Advocate in the University of Cambridge. 1858. This history extends from the arrival of St Augustine in Kent until 1191.

Eulogium (Historiarum sive Temporis): Chronicon ab Orbe condito usque ad Annum Domini 1366; a monacho quodam Malmesbiriensi exaratum. Vols. I., II., and III. Edited by F. S. Haydon, B.A. 1858-1863. This is a Latin Chronicle extending from the Creation to the latter part of the reign of Edward III., and written by a monk of Malmesbury, about the year 1367. A continuation carries the history of England down to the year 1413.

Memorials of Henry the Seventh: Bernardi

Andreæ Tholosatis Vita Regis Henrici Septimi; necnon alia quædam ad eundem Regem spectantia. Edited by James Gairdner, 1858. The contents of this volume are—(1) a life of Henry VII., by his poet Laureate and historiographer, Bernard, André of Toulouse, with some compositions in verse, of which he is supposed to have been the author; (2) the journals of Roger Machado during certain embassies to Spain and Brittany, the first of which had reference to the marriage of the King's son, Arthur, with Catherine of Arragon; (3) two curious reports by envoys sent to Spain in 1505 touching the succession to the Crown of Castile, and a project of marriage between Henry VII. and the Queen of Naples; and (4) an account of Philip of Castile's reception in England in 1506. Other documents of interest are given in an appendix.

Munimenta Gildhallæ Londoniensis; Liber Albus, Custumarum, et Liber Horn, in archivis Gildhallæ asservati. Vol. I., Liber Albus. Vol. II. (in Two Parts), Liber Custumarum. Vol. III, Translation of the Anglo-Norman Passages in Liber Albus, Glossaries, Appendices, and Index. Edited by Henry Thomas Riley, M.A., Barrister-at-Law, 1859-1862. The Liber Albus, compiled by John Carpenter, Common Clerk of the City of London in the year 1419, gives an account of the laws, regulations, and institutions of that City in the 12th, 13th, 14th, and early part of the 15th centuries. The Liber Custumarum was compiled in the early part of the 14th century during the reign of Edward II. It also gives an account of the laws, regulations, and institutions of the City of London in the 12th, 13th, and early part of the 14th centuries.

Chronica Johannis de Oxenedes. Edited by Sir Henry Ellis, K.H., 1859. Although this Chronicle tells of the arrival of Hengist and Horsa, it substantially begins with the reign of King Alfred, and comes down to 1292. It is particularly valuable for notices of events in the eastern portions of the Kingdom.

A collection of Political Poems and Songs relating to English History, from the accession of Edward III. to the Reign of Henry VIII. Vols. I. and II. Edited by Thomas Wright, M.A.

The Anglo-Saxon Chronicle, according to the several Original Authorities. Vol. I., Original Texts. Vol. II., Translation. Edited and translated by Benjamine Thorpe, Member of the Royal Academy of Sciences at Munich, and of the Society of Netherlandish Literature at Leyden. 1861. There are at present six independent manuscripts

of the Saxon Chronicle, ending in different years, and written in different parts of the country. In this edition, the text of each manuscript is printed in columns on the same page, so that the student may see at a glance the various changes which occur in orthography.

Letters and Papers illustrative of the Reigns of Richard III. and Henry VII. Vols. I. and II. Edited by James Gairdner. 1861-1863. The principal contents of the volumes are some diplomatic Papers of Richard III.; correspondence between Henry VII. and Ferdinand and Isabella of Spain; documents relating to Edmund de la Pole, Earl of Suffolk; and a portion of the correspondence of James IV. of Scotland.

Descriptive Catalogue of Manuscripts relating to the History of Great Britain and Ireland. Vol. II.; 1066-1200. Vol. III.; 1200-1327. By Sir Thomas Duffus Hardy, D.C.L., Deputy Keeper of the Records. The object of this work is to publish notices of all known sources of British history, both printed and unprinted, in one continued sequence. The materials, when historical (as distinguished from biographical), are arranged under the year in which the latest event is recorded in the chronicle or history, and not under the period in which its author, real or supposed, flourished. Biographies are enumerated under the year in which the person commemorated died, and not under the year in which the life was written. A brief analysis of each work has been added when deserving it, in which original portions are distinguished from mere compilations. A biographical sketch of the author of each piece has been added, and a brief notice of such British authors as have written on historical subjects.

Royal and other Historical Letters illustrative of the Reign of Henry III. Vol. I. 1216-1235. Vol. II., 1236-1272. Selected and edited by the Rev. W. W. Shirley, D.D., Regius Professor of Ecclesiastical History, and Canon of Christ Church, Oxford. 1862-1866.

Ricardi de Cirencestria Speculum Historiale de Gestis Regum Angliæ. Vol. I., 447-871. Vol. II. 872-1066. *Edited by* John E. B. Mayor, M.A., Fellow of St. John's College, Cambridge. 1863-1869. Richard of Cirencester's history, in four books, extends from 447 to 1066. It gives many charters in favour of Westminister Abbey, and a very full account of the lives and miracles of the saints, especially of Edward the Confessor, whose reign occupies the fourth book. A treatise on the

Coronation, by William of Sudbury, a monk of Westminster, fills book ii. c. 3.

Year books of the Reign of Edward the First, Years 20-21, 21-22, 30-31, 32-33, and 33-35 Edw. I.; *Edited and Translated by* Alfred John Horwood, Barrister-at-law. The "Year Books" are the earliest of our Law Reports. They contain matter not only of practical utility to lawyers in the present day, but also illustrative of almost every branch of history, while for certain philological purposes they hold a position absolutely unique.

Leechdoms, Wortcunning, and Starcraft of Early England; being a Collection of Documents illustrating the History of Science in this Country before the Norman Conquest. Vols. I., II., and III. Collected and edited by the Rev. T. Oswald Cockayne, M.A. 1864-1866.

Chronicles and Memorials of the Reign of Richard the First. Vol. I. :—Itinerarium Peregrinorum et Gesta Regis Ricardi. Vol. II. :—Epistolæ Cantuarienses; the Letters of the Prior and Convent of Christ Church, Canterbury; 1187 to 1199. Edited by the Rev. William Stubbs, M.A., Vicar of Navestock, Essex, and Lambeth Librarian. 1864-1865.

The Anglo-Latin Satirical Poets and Epigrammatists of the Twelfth Century. Vols. I. and II. Collected and edited by Thomas Wright, M.A., Corresponding Member of the National Institute of France (Académie des Inscriptions et Belles-Lettres). 1872.

Materials for a History of the Reign of Henry VII., from original Documents preserved in the Public Record Office. Vols. I. and II. Edited by the Rev. William Campbell, M.A., one of Her Majesty's Inspectors of Schools. 1873-1877.

The usual monthly meeting of the Society was held in the Committee-room of the Y.M.C.A. Institute, on Tuesday evening, 20th February. On the motion of Mr Daniel Ferguson, Col. Stirling of Gargunnock was called to the chair. The minutes of former meeting having been read by Mr Morris, joint-secretary, and approved of, a communication was submitted from the Royal Scottish Geographical Society, asking that a delegate should be appointed to meet with the R.S.G.S. and other delegates in Edinburgh, and draft a memorial to be submitted to the Home Secretary in favour of the fitting out of an Antartic Expedition. Col. Stirling was unanimously appointed delegate. Col. Stirling having submitted report of rainfall in Stirlingshire for 1883, thereafter introduced Mr Morris, whose very able paper on "The Glaciation of the Forth Valley" elicited expressions of great appreciation from members present. "Notes on the Flora of Stirlingshire" (fourth paper), jointly prepared by Col. Stirling and Mr R. Kidston, was read by Col. Stirling. Beautifully prepared specimens of the plants alluded to in the paper were laid on the table for exhibition. Votes of thanks to Col. Stirling and to Mr Morris for their several contributions concluded the business.

RECORDS OF RAINFALL IN STIRLINGSHIRE FOR 1893.

BY COL. STIRLING OF GARGUNNOCK.

I have to bring before you this evening the records of the rainfall in some stations scattered over different parts of the county of Stirling. Last year I was able to bring before you the records of eight stations for the year 1892, and now I have the records of fourteen stations to show you. And I would like here to express my thanks to the different gentlemen who have sent them to me, and for the kind manner in which every one to whom I wrote answered my enquiries. I have summarized the different records in the accompanying table (see Table I.), beginning at the east end of the county and working west. It is very remarkable, on comparing the rainfall at the different stations, to note

the extraordinary difference there is between them and that often at places only a few miles apart. For instance, at Old Polmaise Gardens there were 24·96 in. of rain, and at Glengyle, at the head of Loch Katrine, 380 feet above the sea, and still in the county, there were 91·90 in. Again, at No. 3 Reservoir, Touch Muir, there were 37·90 in., and at Gargunnock House 37·89 in., and at Earl's Burn Reservoir, which is as the crow flies as nearly as possible 3 miles distance from each, there were 49·20 in., or nearly 12 inches difference in the rainfall. Last year I said that Ben Lomond, with its 74·50 in. of rainfall, beat the record of the county, but I did not then know of Glengyle; and you will observe that this year Glengyle, with 91·20 in., beats Ben Lomond with its 72·70 in. by more than 19 inches. From the table you will see that at most of the stations December was the rainiest month of the year. The greatest rainfall in 24 hours at Buchlyvie was 1·62 in. in October, and the Rev. Mr Macdonald, who keeps the register there, remarks on the rainfall for last year:—"Rainfall less than average of recent years, but 3·49 in. more than in 1889. The deficiency is not caused so much by continuous tracts of dry weather, for the days on which rain fell (222) were rather more than on each of the two preceding years, as from the lightness of the general rainfall from March to September, both inclusive, being 8·64 in. less than the average of the last four years for the same period. The total—43·00 in., is 5·15 in. less than the average of the last four years."

Captain Dundas of Ochtertyre has kindly sent me the record of the rainfall there for the last ten years (see Table II.), which, although it is not in our county, I have embodied in my paper as it borders so closely upon it.

Mr M'Dougall has also handed me the records from Causewayhead, just over the boundary of the county, for the last four months of last year. They are—for September, 1·447 in.; October, 4·239 in.; November, 3·427 in.; December, 6·906 in. It is instructive to compare this rainfall with that at Polmaise Gardens and Ochtertyre, all three places being in the Carse. The greater rainfall at Causewayhead being, I suppose, caused by its proximity to the Abbey Craig and the Ochils.

The rainfall for the present year up to the 18th of this month has been 17·37 in. at Gargunnock, and up to to-day (20th Feb.) 14·42 in. at Victoria Place, so that if it goes on this year as it has begun, I will have a remarkable rainfall to chronicle next season.

TABLE I.—RAINFALL IN STIRLINGSHIRE—1893.

	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Polmaise Gardens,	1·45	3·86	0·96	0·60	1·35	1·27	2·00	3·13	1·90	2·10	1·95	4·40	24·96
Little Denny,	2·80	5·10	1·60	1·20	2·70	2·40	3·00	3·50	2·10	4·40	2·10	5·70	36·60
Faughlin,	3·90	6·10	2·10	1·20	3·10	2·00	2·40	3·60	2·30	5·00	2·10	6·90	40·60
Victoria Place, Stirling,	1·90	4·33	1·27	0·82	2·01	1·77	2·41	3·74	1·38	3·11	2·27	4·73	29·74
No. 3 Reservoir, Touch,	2·40	5·90	1·30	0·70	2·35	2·45	2·35	4·25	2·15	4·50	3·75	5·30	37·90
Gargunnock House,	2·92	5·73	1·58	1·02	2·22	2·045	2·535	4·37	2·06	3·87	2·98	6·56	37·39
Earlsburn Reservoir,	2·30	6·10	1·70	1·40	2·70	3·90	4·00	4·90	3·30	7·00	3·50	7·90	49·20
Garden House,	2·01	6·00	1·70	1·58	2·38	0·86	3·86	3·35	1·86	6·76	2·90	6·85	40·11
The Manse, Buchlyvie,	3·04	6·40	2·01	1·42	2·65	2·19	2·91	3·42	3·07	5·36	3·45	6·58	43·00
Craigend Castle,	2·68	6·90	2·72	1·42	3·34	3·34	3·48	4·47	3·30	7·30	4·40	7·27	50·62
Mugdock Reservoir,	2·95	5·45	2·60	1·30	3·10	2·90	3·20	3·50	3·30	5·40	4·40	5·75	43·85
Head of Duchray Valley, Ben Lomond—1800 ft.,	6·20	5·50	2·90	2·10	4·50	3·40	6·00	8·60	5·10	10·40	6·50	11·60	72·70
Glengyle, Head of Loch Katrine—380 ft.,	6·90	10·90	4·10	2·50	3·00	4·10	6·80	10·90	7·80	13·60	6·20	15·10	91.90

TABLE II.—RAINFALL AT OCHTERTYRE, NEAR STIRLING, PERTHSHIRE.

	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.
January, ...	7·58	3·36	Bottle broken by frost	3·32	3·72	1·50	8·51	2·70	3.50	2·45
February, ...	5·55	2·96	1·53	3·33	0·55	1·63	0.75	0·48	0·75	5·18
March, ...	3·91	2·45	3·90	1·86	1·27	1·00	2·65	3·08	0·00	0·84
April, ...	1·00	2·90	2·55	1·77	0·00	1·18	1·50	1·90	1·80	1·28
May, ...	2·76	2·25	3·08	1·00	3·54	3·51	2·61	1·52	4·68	1·75
June, ...	1·25	·78	2·21	0·53	4·28	0·96	3·61	1·55	2·90	1·93
July, ...	5·29	1·02	2·62	2·50	4·62	1·91	3·38	1·65	1·92	5·09
August, ...	2·75	3·36	1·23	5·28	3·37	4·60	3·62	4·60	5.62	2·41
September, ...	3·37	6·22	3·15	3·95	0·82	1·26	4·91	5.00	4·86	2·12
October, ...	3·41	2·57	5·09	1·65	2·53	3·12	2·50	5·28	4·53	2·84
November, ...	3·96	2·00	3·76	3·46	7·26	2·20	7.35	3·50	4·19	2·32
December, ...	7·41	2·80	3·73	1·60	4·33	3·06	1·57	7·18	1·57	5·46
	48·19	32·67	32·85	30·25	36·29	25 93	43·46	38·44	36·32	33·67

Average for 10 years, 35·807 inches.

NOTES ON THE FLORA OF STIRLINGSHIRE.

[FOURTH PAPER.]

BY COL. STIRLING OF GARGUNNOCK AND ROBERT KIDSTON, F.R.S.E., F.G.S.

In continuance of the work of the Society, we beg to lay before you the results of the excursions made last season with the object of working out the Flora of Stirlingshire.

As you may remember when the reinvestigation of the County Flora was taken up by the Society, it was agreed to include in the lists only

those species whose records were accompanied by satisfactory vouched specimens. It is unnecessary for us to go into the reasons why this rule was found necessary. Therefore, though several of the plants we include as new to our lists had been previously recorded, still, until the past season, we had failed to find any herbarium specimens to confirm the records.

We have beside us a list of about 90 species and varieties which have been recorded from the County of Stirling, but of which up to the present time we have seen no specimens. Some of these are unquestionably errors of locality. In some cases where the locality was given for the plant, it has been found that it had been referred to the wrong county. In other cases we have the strongest ground for believing that the plant, though really found in *political* Stirlingshire, was not in *botanical* Stirlingshire, from which all north of the river Forth is excluded. Some of the reputed Stirlingshire records probably came from this botanically excluded part of the county. Then again some of the reputed occurrences of certain species of the genera Rosa, Rubus, and Salix require to be confirmed. These genera have been carefully revised lately by specialists, and it has been found that the older identifications of these groups are frequently open to doubt, and possibly the same plant is included in our lists under a different name. In passing, we may say, that in all these critical genera, we have referred our plants for identification or confirmation to botanists who are competent to give a judgment on such forms. And finally, contained among these 90 records for which we have not seen any specimens, there are undoubtedly some errors of identification. But notwithstanding what has been said, and making all allowance for error, many of these desiderated 90 records are of plants which one can scarcely doubt do occur in the county. The extraordinary thing is that several of them have not been found by us ere now. They are got both to the north and south of us, and we still hope to find or re-find many of them, but from our knowledge of the county Flora, I think we may safely say they are not common. We make these remarks to show how much still remains to be done.

Last spring and summer a good many excursions were made to various parts of the county in districts 1, 2, and 3. No excursion was made in district 4. The great majority of these trips were in district 1, though several were in district 2, but only one in district 3. The result of our labours was the addi-

tion of 22 species and 6 varieties new to our lists. In addition to this, and perhaps not less important, were many new district records. These are all shown in the appended table, the species new to our county being marked by a *.

The following notes on a few of the plants met with last season are desirable :—

Ranunculus trichophyllus, Chaix. was got two years ago in Mugdock Loch, but the original specimens were imperfect. The plant was got by dredging in water about 6 ft. deep, where it seems to flower and perfect its seed without ever coming to the surface. To collect water plants successfully it is absolutely necessary to dredge from a boat, as several British species can only be got in good condition, if got at all, by this means of collecting.

Barbarea stricta, Androz.—was recorded some years ago by Mr G. Horn, and guided by his directions, we found it last season in the original locality. It is generally supposed to have been introduced into Scotland.

Hypericum hirsutum, L , has only been found in one locality. This is one of those species for whose scarcity in Stirlingshire it is difficult to account. We have specially looked for this plant in the county for some years, and as yet have only met with it in one locality.

Rubus Chamæmorus, L. (The Cloudberry), though only met with by us in one place, was there in most extraordinary abundance. It covers a large extent of the muir between the Laird's Hill and the Black Hill reservoir near Kilsyth.

Pulicaria dysenterica.—Gærtn. though an old county record, is very rare, and we only have it from one locality, where, however, it seems to be established.

Andromeda polifolia, L., is also rare, and as yet we have only collected it from one of the carse mosses.

In our last report we mention that *Typha latifolia*, included in our second report, required confirmation. This year we found it near Mugdock, so the record for the county holds good. The plant originally supposed to be this species has been shewn from more perfect material to belong to *Typha angustifolia*.

Two very interesting varieties of Potamogeton were collected last year. *P. polygonifolius* var, *pseudofluitans*, Syme, and *P. crispus*, var., *serrulatus* Regl and Maack. The former seemingly depends on conditions of environment, and the latter is apparently a hybrid,

Several of our new records are evidently introductions or garden escapes, such as *Papaver Argemone L. Lepidium sativum, L. Potentilla norvegica, L. Archangelica officinalis*—Hoffin, (our attention having been drawn to the locality for this plant by Mr Morris) *Peucedanum sativum*, Benth. *Onopordon Acanthium, L., Narcissus Pseudo-narcissus, L.*

The third report brought up the number of species we had met with to 751 and 48 varieties. With those added last year, the numbers now are—773. Their distribution is as follows :—

No.	NAME.	Districts 1	2	3
*15	Ranunculus trichophylllus, Chaix.	x	-	-
18*b*	,, truncatus Hiern, var. flabellatus, Dumort.	x	-	-
*50*b*	Nuphar luteum Sm., var. intermedium.	x	-	-
54	Papaver Rhœas, L.	x	-	-
*56	,, argemone, L.	-	x	-
58	Meconopsis cambrica, Vig.	-	-	x
*76*b*	Nasturtium officinale, R. Br., var. siifolium, (Reich.) Koch.	x	-	-
77	,, sylvestre, R. Br.	x	-	-
*82	Barbarea stricta, Andrz.	x	-	-
121*b*	Camelina sativa Krantz, var. fœtida, Fr.	-	x	-
*141	Lepidium sativum, L.	x	-	-
222	Stellaria nemorum, L.	-	x	x
*270	Hypericum hirsutum, L.	x	-	-
295	Geranium sylvaticum, L.	-	x	-
296	,, pratense, L.	-	x	-
*418	Rubus fissus, Lindl.	x	-	-
*442	,, mucronatus, Blox.	x	-	-
*455	,, Radula, Weihe.	x	-	-
*474	,, Cæsius, L.	x	-	-
*	,, infestus, Weihe.	x	-	-
*476	,, Chamæmorus, L,	x	-	-
482	Fragaria elatior, Ehrh.	-	x	-
*483	Potentilla norvegica, L.	x	x	-
579	Myriophyllum spicatum, L.	-	x	-
617	Conium maculatum, L.	-	x	-
*665	Archangelica officinalis, Hoffm.	x	-	-
*669	Peucedanum sativum, Benth.	x	-	-
724	Scabiosa arvensis, L.	-	x	-
*751	Pulicaria dysenterica, Gærtn.	x	-	-
*769*b*	Matricaria chamomilla, L., var. discoidea.	-	x	-
*811	Onopordon acanthium, L.	-	x	-
910	Vaccinium Oxycoccus, L.	-	x	-
913	,, Myrtillus, L.	-	x	-
*917	Andromeda Polifolia, L.	-	x	-
948	Lysimachia thyrsiflora, L.	-	x	-
985	Symphytum officinale, L.	-	x	-

No.	NAME.	Districts. 1	2	3
999	Myosotis arvensis, Hoffm.	-	-	x
1036	Linaria viscida, Mœnch.	x	-	-
1051	Veronica persica Poir.	-	x	-
1073	Pedicularis sylvatica, L.		x	-
1137	Stachys palustris, L.	-	x	-
*1216b	Polygonum amphibium, L., var. terrestre Fries.	x	-	-
1280	Salix pentrandra, L.	-	x	-
1295	,, cinerea, L.	-	x	-
1315	Empetrum nigrum, L.	-	x	-
*1320	Taxus baccata, L.	-	-	x
1371	Iris Pseudacorus, L.	-	x	-
*1380	Narcissus Pseudo-narcissus, L.	x	-	-
1422	Narthecium ossifragum, Huds.	-	x	-
1450	Juncus maximus, D.C.	-	x	-
1453	,, campestris, D.C.	-	x	-
*1456	Typha angustifolia, L.	x	-	-
1459	Sparganium simplex, Huds.	x	-	-
1480	Potamogeton polygonifolius, Pour.	-	x	-
*1480b	,, polygonifolius, Pour, var. pseudo-fluitans, Syme.	-	x	-
*1496c	,, crispus, L., var. serrulatus Regel, and Maack.	-	x	-
1502	,, pusillus, L.	-	x	-
1539	Scirpus sylvaticus, L.	x	-	-
1543	Eriophorum vaginatum, L.	-	x	-
1544	,, angustifolium, Roth.	-	x	-
1600	Carex pendula, Huds.	x	-	-
*1621	,, paludosa, Good.	x	-	-
*1694	Melica nutans, L.	x	-	-
1785	Cystopteris fragilis, Benth.	-	x	-
1789	Polystichum lobatum, Presl.	-	-	x
1822	Lycopodium Selago, L.	-	x	-

In conclusion we have again to thank those botanists who in past years have assisted us in our difficulties, for help in the present report.

THE GLACIATION OF THE FORTH VALLEY.

By David B. Morris.

INTRODUCTORY.

No period of geological history has within recent years excited more interest among scientists, or attracted a greater amount of popular attention than that generally known as the "Glacial epoch," or "Ice Age." After much controversy, the fact of the existence of a glacial epoch is now generally admitted, and recent discussion has centred round the

question of the cause of this ice age. The theory most generally accepted, is that put forward by Dr Croll in "Climate and Time," advocated by Prof. James Geikie in "The Great Ice Age," and more recently argued with great force by Sir Robert Ball in "The Cause of an Ice Age." The cause assigned by these scientists is purely astronomical. At certain recurring periods, owing to the state of the eccentricity of the earth's orbit and the position of the line of the equinoxes, the summer in a hemisphere (northern or southern) is contracted to a minimum, while the winter is expanded to a maximum number of days. The effect of these conditions is that in the higher latitudes, the accumulation of snow, consolidated into ice by pressure, which has fallen during the long, cold winter, is greater than the sun is able to melt during the short, fierce summer. The result is the formation of a mass of ice covering up the whole of the land for a considerable distance round the pole, and stretching far into what are now temperate regions. While this condition of things exists, what is called a glacial age lasts. Sir Robert Ball shows that the northern and southern hemispheres are subject to glacial conditions alternately. Ice ages, moreover, appear in groups, the period of time between each age in a group, as applicable to one hemisphere, being estimated on astronomical grounds at 21,000 years. Between each group, an enormous period of time must elapse. For the sake of clearness let it be understood that when referring hereafter to the "Ice Age," the last glacial age only is meant. That is the meaning usually intended by the expression. The evidence of geology strikingly confirms the truth of the astronomical theory of a succession of glacial periods. It has been proved that such periods "lasting for thousands of years must alternate with equally prolonged periods of genial conditions" ("Great Ice Age," page 159.) The ice epoch was not one long continuous age of ice, but was interrupted by milder periods, during which the ice disappeared from the low lying parts of the country, and may even have vanished for a time altogether. Indeed, evidence exists, more or less satisfactory of the former action of ice in almost all the British sedimentary strata even so far back as those of Silurian and Cambrian times. Prof. James Geikie gives an account of such indications in "The Great Ice Age," appendix, note A.

GEOLOGICAL EVIDENCES.

The principal evidences of the ice age are the

boulder clay, perched blocks, the Kames beds and glaciated rock surfaces.

(1.) *Boulder clay* or till is usually a tough, tenacious clay, very difficult to excavate, as it will not blast like solid rock, and almost defies the pick and shovel of the navvy. It has the appearance of having been consolidated under extreme pressure. This clay is usually full of blocks of stone of all sizes from mere pebbles up to huge boulders weighing hundreds of tons. The stones are subject to no method of arrangement and are scattered indiscriminately through the mass. All have a peculiar worn appearance, not rounded like water-worn pebbles, but having the sharp angles smoothed away. Their surfaces are covered with scratches known as striae. The boulders are generally of the rock of adjoining districts, and the beds *in situ* from which they have been derived can be traced. Some have travelled for a considerable distance, and by tracing the boulders back to their source, a valuable means of determining the direction of the transporting agency is provided.

(2) *Perched blocks* or erratics. These are scattered all over any country which has been subjected to glacial conditions. Wordsworth says :—

" A huge stone is sometimes seen to lie
  Couched on the bald top of an eminence,
Wonder to all who do the same espy
  By what means it could hither come and whence."

These boulders are to be seen lying on the open hillside, sometimes so singularly placed as to have given rise to a local myth. Such names as "Witches' Stone" or "Carlin Stone" are frequently applied to them. They have undoubtedly been transported by the glacial flow, and can usually be traced to their source.

(3.) *The Kames deposits* are a series of mounds and ridges of sand and gravel, sometimes running continuously for miles, and often so artificial looking as to be readily taken for the work of man. Two local deposits have been respectively mistaken for the Roman wall and a serpent mound. They are undoubtedly formed of morainic matter of the glacial age, but to clear up all the questions connected with their origin would be a task of extreme difficulty.

(4.) *Glaciated Surfaces.* The rock lying underneath these glacial deposits is found to yield important evidence of the existence, nature and direction of the glacial flow. To the consideration of such evidence afforded by the rocks of our own

locality, I shall draw your attention particularly in this paper.

GEOGRAPHICAL DISTRIBUTION OF GLACIAL CONDITIONS.

The effects of a glacial climate are to be traced well into the temperate zones of both northern and southern hemispheres. The southern hemisphere may be said to be enduring a glacial age at the present time. The vast mass of ice which encircles the south pole, and which Sir J. C. Ross found to present an impenetrable barrier to all further progress, stretches into a much lower latitude than the mass of ice fringing the north pole. The land which has been proved to exist within the antarctic circle is at present buried beneath an overwhelming ice cap, such as covered Britain in the ice age. The southern hemisphere has, however, endured more rigorous conditions than at present, for in New Zealand the marks of the glacial period are described as unequivocal. (G. F. Wright, "Man and the Glacial Period," citing G. E. Mannering, "The New Zealand Alps.") Darwin speaks of the Patagonian glaciers having been formerly of much greater extent, and of erratic boulders being found in neighbouring regions far from the place of their origin. (Darwin, "Voyage of the Beagle," Chap. XI.) In North America the evidences of glaciation are most distinctly traceable all over Canada, and as far south in the United States as Missouri and Kentucky. An excellent account of the work done by American geologists in the field of glacial investigation is given by Professor G. F. Wright in his volume on "Man and the Glacial Period." On the continent of Europe the ice sheet extended, at the climax of the ice age, as far as the south of Holland, Saxony and Silesia, and also over a considerable area of Central Russia, east of which the evidences become less distinct. (James Geikie, "Prehistoric Europe.") In Britain, the whole of Scotland, Ireland and Wales, and that portion of England north of a line connecting the Bristol Channel with the mouth of the Thames, show the traces of the glacial period. The higher lying portions of the country formed icefields where the snow accummulated, and from which the glacial streams flowed outwards in all directions towards the sea. In Scotland there seem to have been four such centres of distribution—one in the Highlands of Ross and Sutherland, one in the Grampians of Inverness-shire and Perthshire, one in the uplands of Galloway, and one in the region of Hartfell and Broadlaw. The

glaciation of our own locality was due to the second named, slightly modified by the fourth. From the Highland region north-west of Stirling, the ice flowed down what are now the valleys of the Forth and Teith, out by the Firth of Forth to the German Ocean.

THE ORIGIN OF THE FORTH VALLEY.

To study the evidences of glaciation in this district is to bring us face to face with the problem of the origin of the present surface, and that involves the consideration of the whole geological structure of the region. The principal feature in the scenery of the district is the wide, open valley through which the Forth and its tributaries flow, bounded on the west by the Grampians, on the north by the Braes of Doune and the Ochils, and on the south by the range of the Gargunnock and Touch Hills. That the existence of the valley is largely due to enormous denudation, there can be little doubt. Its origin goes back to very early geological times. We find a great fault where the Carboniferous rocks of the Clackmannanshire coal field join the Old Red Sandstone Rocks of the Ochil range, the result of which is that the former rocks, though more recent in date, occupy a considerably lower level than those of the Ochils. In the Clackmannanshire coal measures themselves there occurs a succession of faults, by which the strata are thrown down to the south to a depth of not less than 1900 feet. (MacLaren "Geology of Fife and the Lothians," page 207.) On the south of the Firth of Forth a corresponding series of faults appears in the Lothians, by which the strata are thrown down to the north in a corresponding manner. The result of the earth movements causing these faults would undoubtedly be a great, hollow trough in what is now the valley of the river and Firth of Forth, even though that hollow followed the axis of an anticline or arch, a circumstance which is of not unfrequent occurrence in the great valleys of this country. The existence of this depression would give the agencies of denudation full play for their work of destruction. The extent of this work may be gauged if we consider the height of the rock on which Stirling Castle now stands. Stirling Castle rock is typical of a series of similar crags which appear in midland Scotland. It consists of a mass of dolerite overlying strata of Carboniferous sandstone, limestone, and shale. The origin of its peculiar formation is due to the influence of

geological structure on subsequent denudation. The hard cap of dolerite has not only successfully resisted the denudation which effaced the overlying and surrounding strata, but it has protected the softer rocks underlying. The calmstone, or altered shale, of the Gowan Hill is a well-known example. The rock of Stirling Castle stands about 350 feet high. We must also take into account the depth of the hollow underneath the clay of the carse. This at Causewayhead amounts to no less than 216 feet (D. Milne Home "Estuary of the Forth" page 16), while at Raploch it is 80 feet, (D. Milne Home "Ancient Water Lines" page 125), although in the neighbourhood of Craigforth the rock comes almost to the surface, and the clay is but a few feet in depth. Let us assume the depth of the hollow to be 100 feet, and we have a mass of solid rock, measuring vertically 450 feet, worn away, while the depth of rock which overlay the dolerite cannot even be guessed at. It must have been considerable, as the structure of the basalt is that of a rock consolidated under great pressure. It must be borne in mind that this enormous work has not been done at one period. It would be a mistake to ascribe the hollowing out of the Forth valley to the agencies of the ice age alone. The work has been carried on through long-continued ages, since earth movements caused the faults before mentioned as far back probably as Palæozoic times. The sea has been an important factor in the work, and no doubt also the conditions of previous glacial periods. Whether or not the faults in the Clackmannanshire coalfield showed at the surface when they originated, they do not do so now in the very slightest degree, and it is only by the operations of the miner that we know of their existence at all. Had there been a layer of dolerite intercalated with the strata of the coalfield, to form a protecting cap, there would now have existed a series of crags like the Abbey Craig and Stirling Castle rock rising out of the Clackmannanshire plain.

While thus we seek an earlier origin for the valley of the Forth, there is no chance of mistaking the work of the ice of the glacial age in the formation of the surface. Let us look at the range of hills which encloses the valley on the north. Everywhere we find a smooth, flowing, rounded contour. From Uam Var, the Braes of Doune and Cromlix Moor, across the valley of the Allan to the top of Dumyat and Ben Cleuch, there is a general absence of abrupt peaks or sharp ridges. If we

turn to the plateau of the Touch Hills, we find the same appearance. It is only where, owing to the steepness of the slope, and consequent absence of protecting boulder clay or soil and exposure of the rock to the action of the weather and the erosion of streams, that we find the flowing outline of the hills broken by cliff or scarr. Everywhere the surface has been smoothed and moulded under the tremendous planing action of the ice sheet. The most noticeable exceptions to this general smoothness of outline are the dolerite crags to which reference has been made. These merit some further attention at this stage. In our immediate neighbourhood, the cliffs of Sauchie, Polmaise, King's Park, Stirling Castle, and Abbey Craig belong to the same category. The Castle rock may be taken as typical of all. We find that it presents the appearance of a steep cliff facing west with a gradual slope to the east. To bosses of this description the term "crag and tail" has been applied. The direction of the ice current was from the north-west. How is it then that the Castle rock presents its steep front more or less in the direction from which the current flowed? If the formation of the crag were entirely due to denudation, unaffected by any other consideration, its appearance would be exactly the opposite. The smooth, sloping surface would face the current, and the steep face would point east. When we examine the underlying strata, however, we find that they dip east at an angle of 10 degrees. This can be seen at Raploch Quarry, at the shale beds above the skating pond, and indeed everywhere that the strata have been exposed either naturally or by borings. The dolerite of the Castle rock is, we know, an old intrusive lava flow, and has the same dip as the strata between which it has been thrust. The slope of the hill to the east is therefore very much the natural dip of the strata. It follows from this that as the strata dip east, the cliff will face west. This is the case with the Stirling Castle rock and most of the other similar crags in the midlands of Scotland. Corstorphine Hill, Edinburgh, is an exception to the others, but follows the same geological rule. There the cliff faces east, but the underlying strata dip west.

SHAPING OF THE SURFACE.

Evidence of the wearing action of the glacial flow, are, however, not wanting on the Stirling rock. Glacial striae will be mentioned shortly. A very slight examination of the hill shows that it is

marked by a series of valleys or hollows running in a direction almost exactly 45° N.W.-S.E. There are (1) the wide open valley between the Ladies' Rock and the castle, (2) the narrow gully immediately north of the Castle where the powder magazine is placed, (3) the deep hollow (partly artificial) where the Ballangeich road runs, (4) a well marked valley immediately north of Ballangeich cemetery, (5) a broad, shallow hollow, succeeded by a broad, low mound, the slope to the north of which is very steep and long, (6) a narrow hollow, followed by a smaller mound the northern slope of which again sinks to a lower level. Between this and the Mote Hill is the next hollow (7) which is interrupted to the east by a low, narrow mound. This is situated so far to the east that, unlike the other mounds, it shows no steep front to the west. These mounds and hollows constitute the Gowan Hills. The mounds viewed broadly have a rounded "whale's back" appearance, while the valleys all show a distinct slope to the north-west contrary to the general slope of the hill. The axes of the mounds and the valleys are all parallel, and they coincide with the striae marked on the surface. The direction is exactly that of the ice flow as ascertained by other evidences. There can be little doubt that the formation of these valleys and the peculiar contour of the hill are due to the eroding action of the glacial current. The same appearance, though not so well marked, may be traced in the Sauchie and Polmaise cliffs, the King's Park cliff and the Abbey Craig.

In direct contrast to the "crag and tail" formation of those hills which have the protecting dolerite cap is the Hill of Airth which is composed entirely of Carboniferous sandstone. It rises more than 100 feet above the level of the carse and presents a gentle slope to the west and a steeper front to the east. The strata being nearly horizontal and there being no protecting cap, the denuding agencies have had free play in moulding the form of the hill. That form is exactly what would be produced by a mass of ice passing over it from the north-west and planing and smoothing the rocks on that side, while the east or lee side has been worn down to a much smaller extent. The same appearance is presented by the Naiad Knoll, a few miles west of Stirling, which is also composed of sandstone.

ICE MARKINGS.

While we can thus trace the influence of the ice flow on the landscape of the district, in the contour

of the surface and in the shape of the hills, we can trace its influence no less distinctly when we examine more closely the surface of the rocks. Wherever the rock crops through the soil we find it to present a smoothed appearance, as if it had been subjected to a severe planing or grinding action. In the uplands of the Ochils and Touch Hills, a succession of rounded bosses may be seen, showing a gentle slope towards the north-west, and a steeper front south-east. Every boss that looks towards the direction from which the ice current advanced is worn away, while those that face the opposite way are more or less sharp and unworn. This peculiarity is an important factor in the scenery of many a Scottish glen. Standing, for example, in the middle of the glen and looking in one direction, a succession of bare, rocky ridges meets the eye; while on turning round and looking the other way, you can only see a series of smooth, heather covered slopes, with barely a single stone to roughen their outline. Again, the rock surface, where the overlying soil has been stripped off, very frequently shows a beautifully waved outline, a succession of convex and concave curves following each other like the flutings of a pillar. The axes of these hollows and mounds show the same north-west and south-east trend. Very frequently also, the surface of the rock, if closely examined, is found to exhibit a series of scratches known as striae. They vary from mere scratches, like those made with a pin point, up to deep grooves or ruts. These striae run more or less parallel, and the direction which they follow is a very sure indication of the direction of the ice flow. It is found always to coincide with the direction indicated by the other evidences which have been mentioned. Striae must be carefully distinguished from the natural cracks or joints of the rock. Joints are usually narrow slits penetrating into the rock, crossing each other frequently at right angles, and sometimes widened a little by weathering. Striae are mostly shallow scratches or ruts on the surface, almost invariably greater in width than depth. They run more or less parallel, and to find striae crossing each other at right angles would be a very rare circumstance indeed. The scratches left on the rocks are of course the result of the latest grinding to which the rocks were subjected, all previous markings having been obliterated by the last. Generally speaking, the markings are those of the ice-sheet which passed right across the country and did not generally observe the lines of the valleys, but in certain

Highland valleys, the markings are those of the last retreating glaciers, which remained in the higher regions long after the general ice cap had disappeared. The ice markings there follow the direction of the valleys. It is in the higher lying districts that the evidences of glaciation are most distinct. The lower regions have either been subsequently beneath the level of the sea which has obliterated all marks of the presence of ice, or are covered with immense sheets of boulder clay, peat moss and soil, which completely hide the surface of the rock from view. The influence of the weather is gradually obliterating the finer marks left by the ice, and the smoothed surfaces of the rocks are again becoming rough and irregular. Rains and frosts, springs and streams, are day by day wearing away the traces of the glacial period, so that it is only where the boulder clay or soil has been recently cleared from the surface that we can study these ice markings to the best advantage. Some kinds of rock yield more rapidly to the weather than others, and it is noticeable that the striae preserved in this locality are almost entirely on rocks of volcanic origin. The sedimentary rocks, being softer, have long since lost the finer traces of glacial action.

LOCAL RECORDS.

At Ballengeich cemetery, the boulder clay is being gradually cleared off the surface of the rock to allow blasting operations to be carried on. In this way successive portions of the surface have been exposed. Mr Kidston drew attention to a portion exposed in April, 1892 (Trans. 1891-92, page 114.) I carefully examined two portions more recently exposed, and the surface showed a most beautiful, undulating appearance. In one case the concave hollow measured two feet deep. Along the hollows and mounds and parallel with them, striae were to be seen very distinctly. Some were ¼-inch broad and ⅛ deep. Their direction varied from 35° to 45° N.W.-S.E., crossed at one place by a few 25° N.W.-S.E. These directions and all the others given here are magnetic. To ascertain the direction from the geographical north, 18 degrees require to be added. On the mound succeeding the hollow to the north of Ballengeich cemetery, the rock shows through the turf at several places. The same smooth, waved outline is to be observed, but the surface having been long exposed to the weather, the conditions are not so favourable for observing striae. At one point however, they are

to be seen, the direction being 35° N.W.-S.E. At the end of Lower Bridge Street, a small portion of the rock surface is exposed under the wall at the foot of the Gowan Hill. It shows the familiar smoothed outline. On the summit of the Ladies' Rock, at the north west corner, a number of striae can be seen running along the sides of a deep rut, 45° N.W.-S E. They are broad, shallow grooves and are almost parallel. In Drummond's Pleasure Ground, the natural surface of the rock is exposed at the east side of the pond close to the edge of the water. It shows striae rising over the slope at a low angle and pointing due south. A few feet farther east, the steep rock surface which forms the edge of the walk leading to the little bridge presents a smoothed appearance. On it is growing a colony of bright green moss, grouped in parallel lines, which mark the hollows of glacial striae. These also point due south. This change of direction, which indicates a considerable local deflection of the ice current, is not easy of explanation. On the Gowan Hill on the one hand, and on the Ladies' Rock on the other, the general direction is 45° N.W.-S.E., while here it is due south. The mound does not seem large enough to present a serious obstacle in the way of the current. At other places I have found a considerable change of direction within the distance of a few yards, and we must suppose that such changes were the result of some purely local cause which did not affect the general body of the ice. The Pleasure Ground striae, pointing south, are mentioned by Mr D. Milne Home in "The Estuary of the Forth," and my observations corroborate his.

In the King's Park, where the rock shows through the grass near the crest of the ridge, it is smoothed in appearance, but a good deal weathered. Striae are only visible at one place, namely at the top of the road leading from Dumbarton Road to the park. At the side of the road leading thence to the ploughman's cottage at King's Park farm, a bare surface is exposed. While the marks on the road may be those of cart wheels, unmistakeable striae are visible above the road. The general direction is 45° N.W.-S.E., although they are not all quite parallel. On the summit of the Abbey Craig, several smoothed surfaces are to be seen, but I have not been able to satisfactorily identify any striae.

On the west side of the Murrayshall Road, just before coming to the porter's lodge and entrance to the grounds of Polmaise Castle, there is an outcrop of rock. The

natural surface is exposed, and it shows a wavy outline. No striae are visible. Farther up, on the east side of the road, in the field immediately beyond the Tinker's Loan, there are numerous surfaces of the rock showing through the soil. They have all the shape of rounded bosses. No striae are to be detected, as the weather has acted too forcibly on the whinstone, which in many places is peeling off in layers in the manner peculiar to the weathering of trap rocks. A little beyond North Third Farm, in a field to the north of the road, a number of rock surfaces are exposed. These show striae at different places, the directions being 45°, 35°, and 30°, N.W.-S.E. Farther on, the turf on the roadside has recently been cleared away, and the rock surface laid bare is beautifully polished and striated. The striae mostly run from 40° to 45° N.W.-S.E., but these are at places crossed by another series running from 15° to 20° N.W.-S.E. Farther up, near King's Yett, the rock shows on the road at several places with characteristic hollows running 30° N.W.-S.E., but being on the surface of the road no striae are recognisable. In the field to the south of the road, the same ridge of rock is visible through the soil. It has a hummocky appearance, but the surface is too much weathered to show striae. The burn which crosses the road at King's Yett flows for a part of its course over a bed of exceedingly tough boulder clay containing striated boulders. At one part near the cairn the rock surface slopes into the burn from the south. It shows the mound and hollow formation with striae 20° N.W.-S.E. These are fairly distinct, being at places broad grooves or ruts.

In the valley of the Wharry Burn the evidences of glaciation are most distinct. A short distance above the waterfall, a small tributary flows in from the east. This stream has washed the boulder clay from off the surface of the rock. The smooth, unbroken surface presents the most unmistakeable evidence of the action of the ice. The rock is conglomerate and no striae are to be seen, as the surface has roughened under the influence of the weather. In the bed of the Wharry a very short distance farther up, the same appearance is presented. The boulder clay has in the course of ages slipped down in great measure and been carried away by the current. The smooth rock surface passing right up from the bed of the stream under the masses of boulder clay which rest upon it at the top of the bank, cannot fail to strike the observer as a most impressive picture of the work

of the glacial flow. In the bottom of the valley there lies an enormous, table-shaped boulder of Highland schist which has been transported from its source in the Grampians and deposited there by the ice. On the open hillside above the valley of the Wharry, the flowing outline is very noticeable. The smoothed surfaces all face north-west and the little rock escarpments south-east. A dome-shaped mound, a little to the north of the tributary stream above mentioned, is partially bared near the summit, and the rock surface is as smooth as a table, except for well marked striae crossing it, 45° N.W.-S.E. On the roadside at Pendreich farm, the rock is again exposed and shows the familiar smoothed surface. The rock is partly conglomerate, which is slightly weathered, and partly volcanic tuff. The tuff is beautifully polished and shows a few striae, the direction being 40° N.W.-S.E. Where the road to Drumbrae and Pendreich strikes off the Sheriffmuir road, the rock is exposed on the eastern bank of the road. It is conglomerate consisting of pebbles of different kinds measuring from a few inches to over a foot in diameter. The rock has evidently been subjected to a very powerful grinding process. Every pebble has been worn down to a uniform level, and beautiful sections showing the different structures of rock are shown. It looks like a piece of inlaid stone work. Further up, on the east side of the Sheriffmuir road, near the entrance to Parkhead farm, a bare surface of volcanic agglomerate shows striae, 45° N.W.-S.E. Some of these are ¼-inch broad, and all are perfectly parallel. Further up, and just beyond the well, the surface of a rounded hummock of porphyry is exposed on the east side of the road. It shows striae running 25° N.N.W.-S.S.E. One large rut is ½-inch broad and nearly ¼-inch deep. A little farther on, a smoothed surface of porphyry shows striae 30° N.W.-S.E. Still farther on, striae appear, 45° N.W.-S.E. These three observations indicate a slight local deflection from the normal direction of the flow, caused by the hill which lies towards the south-west. The upper part of the valley of Menstrie Glen is clothed in great sheets of red coloured boulder clay. The rock rarely shows at the surface, and when it does, it is too much weathered to show striae. Near the foot of the valley, however, smoothed surfaces are seen at several places. On these are striae varying from 15° to 40° N.W.-S.E. The striae follow generally the direction of the valley, and the wavy outline is here displayed. Just above Menstrie village there occurs

a very impressive example of *roches moutonnées* (a name applied to glaciated hummocks of rock in the Swiss Alps, and suggested probably by a fancied resemblance to a sheep's back). The strata are highly inclined to the north-west, and the upturned edges have been ground flat by the action of the ice pouring down the valley, leaving the smooth surface looking up the valley, while a steep cliff faces the carse.

I have only made one observation of striae south of the Touch and Kilsyth range of hills. At a whinstone quarry near Croy station, the surface of the rock was cleared of soil over a considerable space at the time of my visit. The surface was smoothed and showed striae, the average direction being 40 S.W.-N.E. This change of direction is very interesting. The mass of ice, after pouring over the Kilsyth hills in a south-easterly direction, was deflected to the east and north-east by the influence of the large body of ice streaming northwards from the southern uplands. None of the ice from the south came nearly so far north as Croy, but we can trace its influence in the deflection of the stream coming from the Grampians. The united ice streams from north-west and south passed across the Lothians in an east north-easterly direction out to the German ocean. My one observation in this district corresponds with the numerous observations of Professor Geikie and the Geological Survey.

ACTION OF THE ICE SHEET.

It must be borne in mind that though we have spoken of the ice flow as the cause of the worn and striated appearance of the rock surface, the actual erosion of the surface was not so much done by the ice itself, as by great blocks of stone and boulders carried along by the ice. These boulders were probably in great part derived, when the ice first overflowed the land, from the relics of long continued subaerial waste. Many blocks, especially of softer or many jointed rocks, would also be torn from their beds by the ice before the smoothed surface was fairly impressed on the land. These boulders, firmly imbedded at the bottom of the ice, were pushed along, acting like the teeth of a great file in wearing away the underlying rock. The boulders themselves became worn and striated in the process, and are now to be seen as perched blocks or imbedded in the boulder clay. The boulder clay is simply the fine sediment worn away from the rocks and the carried boulders by their mutual friction

under the pressure of the overlying mass of ice. The amount of material thus removed is very great. It has been estimated, for example, that the Justedal glacier in Norway removes annually from its bed 2,427,000 cubic feet of sediment. At this rate, the amount removed in a century would be enough to fill up a valley or ravine 10 miles long, 100 feet broad and 40 feet deep. (Sir Arch. Geikie, "Class Book of Geology," page 68).

CONCLUSION.

If we wish to realize what was the condition of our country during the ice age, we cannot find a better illustration than that of Greenland at the present day. As Greenland is, so Britain was at the climax of the glacial period. The investigations of Dr Nansen in his journey across the inland ice of Greenland have thrown a vivid light on the appearance of a country covered with an ice cap. Nansen found the whole interior of Greenland to be deeply buried under a vast accumulation of snow consolidated into ice. Constantly augmented by fresh snowfalls, the ice moves from the axis of the country downwards and outwards towards the sea in all directions. The whole face of the land is covered to the depth of many hundreds of feet. The huge mass of ice, slowly moving forward, covers up hills and valleys, and must exercise an enormous pressure on the rocks underlying. Reaching the ocean, the ice protrudes as a long wall, which gradually breaks up into fragments that float away as icebergs. The intensity of the eroding force on the land of this mass of ice may be gauged from the fact that many of the glaciers descending on the west coast of Greenland move at the rate of from 30 50 feet per day. One at Upernavick had a velocity of 99 feet per day during the month of August. (Wright, "Man and the Glacial Period," page 48). These figures far exceed the average rates of glacier motion in the Alps recorded by Professor Tyndall in "Forms of Water."

From a careful study of the evidences of glaciation which have been mentioned, we can realize the chief movements of the ice sheet in Scotland. From the highlands along the west coast, a vast mass of ice must have pushed its way outwards to the Atlantic, passing right over what are now the islands of the Hebrides, and terminating in a long wall of ice from which huge icebergs would be drifted away by the ocean currents. Down the Firth of Clyde moved a body of ice collected from that basin. Augmented by a stream from the hills

of Galloway, it passed southwards by the Irish Sea. From the central Highlands of Scotland, the ice streamed southeastwards right across the chains of the Ochils and Touch Hills, and uniting with the stream from the southern uplands of Selkirk and Teebles passed into what is now the North Sea. Phere the ice current was met by another flowing southwards from Scandinavia, and coalescing with it, streamed across the eastern counties of England. These counties are now found to be strewn with boulders from the Highlands of Scotland mingled with many which could only have come from Norway. (Sir Archibald Geikie "Scenery and Geology," page 252.) The later stages of the ice age in Scotland were marked by the existence of glaciers in the higher lying regions. These threaded their way down the glens in the same way as the glaciers of the Alps and Norway at the present day are doing. In fact, when we consider the present existence of glaciers, more or less extensive, in the Alps, the Pyrenees, Scandinavia, the Caucasus and Hymalaya Mountains and in California, we may fairly say that we have not yet quite passed out of the glacial period. The present is perhaps only a milder interglacial period, separating the time when Scotland was a Greenland, from that far distant future time when the heavenly bodies in their courses shall decree that our country must endure the rigours of the next ice age.

The usual monthly meeting was held in the Committee Room of the Y.M.C.A. Institute, on Tuesday evening, 20th March—Mr James Todd, in the absence of the Rev. Mr Goldie, presiding. There was a large attendance of members. The minutes of February meeting having been read and sustained, the Chairman in appropriate terms introduced Dr Galbraith who read the second and concluding part of his interesting paper entitled "Old Recollections of Stirling." At the close, several gentlemen present expressed in high tones their appreciation of the truth and vividness with which Dr Galbraith had reproduced these interesting glimpes of old Stirling. Ex-Provost Yellowlees characteris the paper as long but not tedious, and as remarkable for its historical accuracy as for the choice language in which it was couched. Dr Gibson expressed himself in similar terms and moved a hearty vote of thanks to Dr Galbraith. This was unanimously agreed to.

OLD RECOLLECTIONS OF STIRLING.

SECOND PART.

(By Dr G. T. Galbraith.)

At the top of St John Street the tenement with the inside spiral stair, on the right hand in descending, is Bogle Hall, supposed to stand for Bothwell Hall, the lodging of the Earl of Bothwell. Further down the present gaol, recently converted into a military prison, was constructed about the year 1845. Previous to that time the rear portion of the Burgh Building facing to St John Street was used for the incarceration of prisoners, the access to the prison being at the side in the Jail Wynd, with the police cells in the basement behind. Just opposite was an old house belonging to the Gibb family, tenanted by our relations the Miss Chisholmes. Opening out of one of the rooms on the upper floor of it was a small projecting turretted apartment, with a window looking to the Carse of Stirling, a view which, young as I was, at an age when children usually pay no heed to scenery, greatly impressed me with a sense of its surpassing loveliness on a fine sun-lit summer day. From the windows looking across the street to the gaol, I often watched the debtors, who were confined on the upper floor, fishing with a bag, usually a stocking, attached to a long string and let down to the pavement below to receive contributions for their comfort bestowed by their personal friends or other charitably disposed individuals, among which if there was a bottle of whisky, it was not objected to nor prohibited. In those old days, amid much harsh treatment of prisoners, now unknown, there was at the same time a good deal of laxity and even lenity in some respects. The old house was disposed of by my uncle, Mr Gibb, to the Erskine Church Congregation, in order to its being taken down for the purpose of widening and improving the access to the church from the street. I have been told that the site for this church known then as the Back Raw Kirk—the first church of the Secession of which Ebenezer and Ralph Erskine were the leaders—was given to them by one of my ancestors of the Gibb family, probably my maternal great-grandfather. At the foot of St John Street, where the five-light lamp post now stands, was a flight of stairs—the Braid Stairs—that led down to the junction of the Bow and Baker Street. At the foot of the stairs was one of

the public wells from which Stirling was formerly supplied with water, and in frosty weather there was always there a notable slide that required no little courage and dexterity to venture on it, being so difficult of negotiation, owing to the rapidity of the slope on which it was made. Nearly twenty five years ago the building at the top of Baker Street called the Mint, just below where the well stood, was taken down, the Braid Stairs removed, and the present slope formed.

I do not know who is answerable for having had the name The Bow, so aptly descriptive of the sudden bend in the main access to the upper part of the town, changed to Bow Street. I feel indignant at all such assaults on our fine old Scottish language, alas! gradually decaying too rapidly. "Bow Street" indeed! Of all appellations one of the most unhappy, suggesting comparison with the too widely known London Street reeking with all its associations of detected criminality. A similar instance of vulgarity, although not quite so offensive, presents itself in the alteration of Friars' Wynd, that so suitably represented the character of the narrow winding street, to Friars Street. Whoever made and advocated the ill-judged alterations can surely have been neither intelligent or leal-hearted Scotsmen, and as surely deserve the fate apportioned by Sir Walter Scott to the man who was not imbued with right patriotic feeling of descending to his grave, "unwept, unhonoured, and unsung."

Before the erection of the High School, Spittal Square, commonly called Cowane's Yard, was an open space, with the Burgh Schoolhouse, a very plain two-storeyed building, at its western end facing to Spittal Street, and on the south side the Flesh Market. On the north side was a row of lime trees, that, schoolboy as I was, were to me in their summer beauty a source of great admiration. The remembrance of that charming row of limes is the most pleasant of my old associations of Spittal Square. Often, as I pass the spot, a picture forms itself in my mental camera of a sunny afternoon when, sitting at my task in the arithmetic and writing school, which was on the upper floor, I stole many a furtive longing glance through the windows thrown up to let in the cool air—for through the haze of years it seems to me as if all summer days were then warm—on the lovely tender green leafage as it moved to and fro in the gentle afternoon breeze. Sometime early in the '30's we had an epidemic of that now well known and justly dreaded disease,

influenza, the first that I have personal experience of. When after a severe attack of it I was able again to go out of doors, my first walk, with very shaky footsteps, led me up to Cowane's Yard, and I very well remember thinking that I had never seen anything so lovely of the kind as the tender green of these lime trees, then just coming into full leaf at the call of early summer. The trees had to be sacrificed when the High School was built, and then, too, the road to the Back Walk was considerably widened by blasting away a quantity of the rock. Before that alteration was made there stood at the corner of the Square next St John Street a building called the Reservoir, in which was stored the water brought from the Touch Hills for distribution to the public wells, that were situated in different parts of the town. Beneath the Reservoir was a recess where the public fire-engine was kept. The stones that formed the doorway of this recess—hewn in Scottish style like those in the entrance gate of Argyle Lodging—were, when the reservoir was taken down, carefully laid aside, as I have been told, by the judicious prevision of Provost Rankin and Dr Forrest, and when the recent addition to the High School was being made the architect, the late Mr M'Laren, gladly availed himself of them for the doorway entering from Spittal Street, of which they form a peculiarly characteristic ornamentation. Mr Leslie Neilson informs me that he was told by his father that these same stones once formed the doorway in a wall that stood where now are the iron railing and the gateway by which access is obtained to the Guildhall and Churches from the top of St John Street. Ladies attending balls in the Guildhall complained of having there to get out of their carriages and walk the remainder of the distance; the wall was therefore removed, and the stones were transferred to the Reservoir. In a niche over this door at the Reservoir for many years reposed the figure of the unicorn seant that now forms the finial of the Mercate Cross, as restored on 24th May, 1891, by the munificence and public spirit of our late most capable and distinguished Provost, Robert Yellowlees, being the only portion surviving of the old original Cross, that was removed, as encumbering the street, some time towards the end of last century, when Town Councils had less regard for the preservation of old historic structures than, fortunately, they everywhere now display. When the Reservoir was taken down the unicorn was removed to a similar niche over the stair leading to the Court Rooms in Broad Street,

and there rested till it was placed in its present appropriate position. While it remained at the Reservoir the unicorn, or "puggie," as we schoolboys called it, presented only too tempting a target for that favourite amusement of boys, stone throwing, and consequently was constantly being pelted by them. I have no specific recollection of participating in the perpetration of this indignity to the emblem of Scottish sovereignty, but I have no doubt I must have often thus tried the accuracy of my aim with a stone. There was of course for us the palliation that we did not recognise its heraldic signification. For myself, however, it was a great gratification when, at the restoration of the Mercate Cross, I had the high distinction conferred on me, one of which I am very proud, of being selected by Provost Yellowlees, in conjunction with Mr Mouat, to unveil the Cross now surmounted by the royal unicorn, for I seemed then to be making some atonement to it for my boyish misdeeds.

On the south side of Spittal Square, as I have said, was the Flesh Market, an enclosed parallelogram with covered stalls all round. In these days there were no butchers' shops in the town, and the meat supply was provided only here on Friday, the weekly market day, by the various butchers who rented these stalls, most of them coming in from the country for the purpose. It was thus necessary for families to lay in a week's supply of butcher meat, a very inconvenient arrangement, looking to the impossibility of calculating what unforeseen demands might be made on it in course of the week, and in hot weather to the difficulty of keeping the meat from becoming tainted. As to the poorer classes, who could not be in circumstances to lay in a week's supply, I suppose they did very much without butcher meat. Yet the men and women of that generation were capable of quite as hard work as their descendents, toiled longer hours, and appeared to be no less healthy or shorter lived. Our butchers came from Bannockburn, two brothers, who afterwards had a shop in the town when the weekly market system came to an end. The elder of the two died not so many years ago, a good while after I returned to settle down in Stirling. I have known much anxiety pervade the domestic circle on a Friday of deep snow lest the Kerrs' cart would not be able to reach the town, and the journey being effected only with the greatest difficulty with the help of an additional horse to drag the laden vehicle through the deep snow. The first butcher who set up a shop in the

town for the sale of meat on all days was John Dick. His right to do so was contested by the Incorporation of Fleshers, but after being carried to the Court of Session the case was decided in Dick's favour. I believe his shop was in Friars' Wynd. Opening out of the market was the slaughter-house, a place we boys, attending the burgh schools, were specially forbidden to visit, a prohibition which seemed to enhance our attraction to it to witness the horrors of the blood-shedding and the agonies of the slaughtered animals.

The schoolhouse which stood at the upper end of the Square, was a very plain two storey building, each floor having one large apartment lighted by windows on each side, with two small rooms—"the back rooms"—at one end. The English school was on the ground floor, taught by Mr Weir, irreverently called "Bubbly Jock," a repetition now of his nickname, by which there is no probability of offence being given to any one now living, for I never heard mention made of any relations he may have had, or that he left any behind him. He was unmarried, and I rather think was one of the elders of the West Church congregation. He lived in one of the tenements of Allan Park House, at the west end of Port Street. Naturally his methods of teaching were not those of the present date. They were carried out with a very liberal application of the tawse, in connection with which it was for us a fortunate arrangement that in the schoolroom there were iron posts supporting the floor above, to which we used to resort after receiving our scults, clapping our hands on them to relieve the burning heat of our stinging palms by the cold of the metal pillars. How dry and dreary were our reading books in those days with their uninteresting tales, their heavy poetry, their extracts from Shakespeare, Milton, Addison, the *Spectator*, the *Rambler*, &c., little calculated to engage the attention of youthful minds, and certainly not intended to provide for them any amusement, compared to the series of appropriately illustrated volumes, with their well chosen stories, their useful and interesting information on so many and various subjects, their tuneful poetical pieces that are in use in our elementary schools now. If no royal road to learning has been discovered, at least the path has been made smoother and more attractive, a much less dreary and rugged track than that which my youthful feet were forced to tread. I recollect a curious custom at Mr Weir's of the whole school reciting the reading lessons in unison in a loud peculiar kind of chant, whose

tones, when I think of it, seem now to ring in my ears. What would a school inspector of the present regime think were he to open the door and come upon a congregation of scholars engaged in this strange performance, like the intoning of a hymn to the God of Learning or Teaching? I believe his horror-struck aspect would amply justify the appellation of "the spectre," commonly applied to him by the children. Beyond reading, I don't think I acquired very much at Mr Weir's. There were no wall maps for object lessons in that school. My acquaintance with geography was merely book learning committed to memory. As for the grammar that was then taught, I am glad it was not that unnecessarily intricate system, quite foreign to the natural simple construction of the English language, that has been elaborated by pedants to puzzle the brains of the young folk of the present generation. At the same time, I must say I did not acquire a competent knowledge of English grammar until I came to learn Latin, which is the key to it. One subject which, however, the masters did *not* profess to teach, I easily and unconsciously learned during my attendance at the Burgh Schools—viz., a knowledge of the vernacular Scottish language, which I was compelled to use under threat of corporal chastisement by my schoolfellows; on the other hand, at home I was reprimanded if I allowed Scotch expressions to escape my lips. I have always congratulated myself on this practical acquaintance with the native Doric that I thus obtained, as enabling me rightly to understand and thoroughly to enjoy our Scottish literature and Scottish humour. With the spreading invasion of the English dialect I doubt if the children now attending the High School gain any such useful familiarity with their native tongue. Boys and girls were taught during the same hours at Mr Weir's.

Above the English School was that where writing, arithmetic, book-keeping, and mathematics were taught by Mr Peter MacDougall, more generally known by his familiar cognomen of Patie, a man of very considerable note in his day, and a very capable teacher, whose success in sending out well trained arithmeticians and model caligraphists was made known to the farthest quarters of the globe by many of his pupils who proceeded thither for the prosecution of mercantile or professional pursuits. He was the author of a class book on arithmetic, a pretty thick octavo volume, which was a good standard work of its time. Patie was well up in years before I came under his discipline, and I believe

my mother before me may have been one of his scholars, for, as he used to tell us, he had been teaching from the time he was fourteen years of age. He was a sturdy Highlander from Hell's Glen on Loch Goil. He, too, was an elder of the West Church. His dwelling was a flat on the first floor situated in a close in St John Street, the third close on the left hand going up the street. Patie was a man of much character and marked individuality, with many peculiarities in the exercise of his functions as a schoolmaster, that, however, out of harmony with the scholastic requirements of the present time, met with no disapproval in his day, and were not considered in any respect unbecoming his position at the head of a public school. I can picture him now, as we lingered too long at our games on the playground, standing, cane in hand, at the door of the little back court that gave access to the stair leading up to the schoolroom, watching for the first little group of boys that banded together to run the gauntlet, and striking among them without any special selection as they rushed past. Up the stair we tore at full speed, the school began to fill, and the next part of our performance was to set to screeching at the fullest pitch of our shrill voices, keeping it up until Patie, blazing with fury and breathless from his hasty ascent of the stairs, appeared at the door. Then a sudden hush, quite startling in its effect after the ear-piercing yells, fell on the whole of the school, and as if by the touch of a magician's wand every head was bowed in studious abstraction over slate and book, while Patie came swiftly up the room distributing cuts with the cane right and left on all whom he could reach with it. That afternoon was not a happy one for us. Seated in his high armchair—the chair with its folding footstool is still preserved in the Rector's department in the High School—placed at the top of the central passage up the school, Patie sat watching us the whole afternoon, as he used to say, "like a cat watchin' a moose." Woe betide the boy who ventured to raise his head and look about him, or whispered to his neighbour, or out of tricks "dunched" him with his elbow. Patie was up in a moment, and with an activity wonderful for his years and his somewhat portly figure, swiftly pounced on the offender, and rained on his shoulders a series of rapid cuts with the never failing cane. He was ever ready to show his faith in the aphorism of sparing the rod and spoiling the child, and was not always strictly just in practical demonstration of it. Often after

caning a boy he would say, "That's for yer ain sake, noo I'll gie ye anither for yer faither's sake." Sometimes when he was in no very placid mood he would single out some boy who had been giving no apparent cause of offence, "As I was comin' to the schule this mornin' I met yer faither, and he tell't me to gie ye a guid lickin'. Come oot here and I'll dust yer jaicket for ye." I have known a boy to be thus dealt with, who had neither father nor mother alive. With all this liberal application of the rod it might be supposed that Patie was harsh and cruel in his school discipline, but we boys, who were surely good judges in the matter, did not think so. No doubt he was imperious in his rule, and we stood a good deal in awe of him. At the same time we did not hate him as a tyrannical master, on the contrary to a great extent he won our affection, we respected him, and were in a way proud of being under his sway. I must say we tried his temper by our many schoolboy tricks. One was to drop the roe of a salt herring into the fire, where its long continued crackling greatly irritated Patie, while he was powerless to put a stop to it, and unable to single out the culprit for punishment. Or, a dog would be slily introduced, and when the cry was raised, "There's a dug in the schule," "Pit him oot! Pit him oot!" a grand commotion was excited, with pretentious appearance of trying to expel the intruder, some boys all the while guarding the door to chase the animal back when he came too near the way of exit. And after all the pain caused by the cuts of the supple cane, modified as they were by the clothes that intervened between it and our skins, was very evanescent and trifling in comparison with that inflicted on the bare palm by the thick, yet flexible tawse. Often, moreover, a boy, forewarned that he was to get a caning, provided for it by inserting a copy-book under his clothes over that part of his body supposed to be specially adapted for receiving the strokes of the rod, and thus protected yelled only more vigorously as they descended on him, very soon inducing Patie to leave off the harmless castigation. For Patie was really a kind-hearted old man, and plied the cane from truly conscientious principles, and not merely for the sake of giving pain. Many a boy, particularly if he pleased him with his writing, received as a reward a quarter of a hundred of quills, for, of course, in those days steel pens were not yet known, and when they were beginning to come into use Patie never took to the "airn pens." The art of making and mending a pen was therefore

a necessary accomplishment. I can fancy I see Patie shaping pens for the younger boys with three pairs of spectacles perched on his nose to aid his failing sight. Often he was in a genial mood, and entertained us with accounts of former pupils who had excelled as caligraphists. Two young men of the name of Forrester, specimens of whose writing he used to exhibit for our admiration, were specially held up to us as patterns to be imitated. Many of his sayings were quaint enough. "Aye! ye mind the day, but ye dinna mind the oor," as some laggard would slip in noiselessly, and take possession of the nearest vacant seat. "Aye! Mr Cummin, but ye're lang o' comin." The girls attended at a different hour, viz., during the interval from 1 to 2 o'clock that we had from school, and thus Mr Macdougall seemed to be teaching continuously from 9 to 4, long hours for such trying work. A common punishment for a girl that misbehaved was to be kept in for a short time among the boys. She was placed at "the first table" at the head of the school, to which I had in due course been promoted. There we found the unfortunate girl with her head down on the table, her face hid by the poke bonnet that was then the female headgear. "Aye! There's a nice young gentleman, George Galbraith, to sit beside ye; he'll be polite to ye." I am sorry to say that our attentions were not of a very polite character, consisting mostly of attempts with our pens and slate pencils to raise the bonnet and see what face it concealed. The detention was never for any length of time, and permission being given, the strayed dove fled swiftly out of the school.

I was rather a favourite with Patie, chiefly because I along with another boy had gone in for learning geometry, for which I displayed rather an aptitude, readily passing over the *pons asinorum*, and being able to demonstrate the 47th Proposition of the 1st Book of Euclid without a mistake. Patie had a good opinion of a boy who could learn "Mathematics," but what sorely tried him in my case was my crabbed handwriting. "Man, George Galbraith, ye can learn mathematics, but ye canna write. Ony blockhead in the kintry can learn to write, but your writin's like a man wi' a roosty nail. It's jiat like a hen scartin wi' its tae." A recollection of my very poor attempts in those days compels me to admit that Patie's smiles were apt enough. On a Saturday he has taken my fellow geometrician and myself down to the Abbey Ferry, and there given us lessons in measuring the height of Cambus-

kenneth Belfry Tower on the other side of the river by the angles taken with his theodolite. Returning home he took us to his lodging, and there regaled us with cake and Alloa ale, a very potent beverage as is well known, served out to us fortunately in a moderate quantity in old-fashioned ale glasses, resembling the old champagne glasses that preceded the cup shaped vessels now used. Although I was thus in a measure a favourite with Patie, I did not escape the lash of his sarcastic remarks. One day I took up to him a sum on my slate which he pronounced to be "A' wrang," spat on the slate, wiped it with his cuff, wrote down some figures, and told me to go and work out the sum in that way. This I did, discovering at the same time that I had been right, and that he was wrong. When I presented the slate again, not recognising his own figures blurred from having been written where the slate was still moist with his spit, he accosted me with "Whaur's my feegurs," "These are your figures, Sir," "Ye're a leein little rascal. Thae's no my feegurs. Go and sit at the Long Table," a position of disgrace in such circumstances. And then he began his tirade on me. Pacing up and down the school, and from time to time giving me a dig under the ear with his knuckles as he passed, "I'll tell ye aboot this George Galbraith. Ae' day his faither, Captain Galbraith, a very dacent gentleman, cam to me and said, 'Mr Macdougall, I'm goin' to put my son George to your school. George is a good boy, he'll give ye no trouble.' Look at the good boy! a leein' little rascal, that ribs oot my feegurs, pits in his ain, and then tells me they're mine. There's the good boy for ye! Look at him!" and so on and on. Dear old Patie! I often lamented that, dying while I was abroad, I had not on my return the gratification, like many of his old scholars, of paying him my dutiful and grateful respects.

The late Mr Duncan Macdougall, mathematical master in the High School, a teacher held in high estimation and great respect, was his uncle's assistant, "helper," as we called him in my school days. When I became a member of the School Board, and was thus in a sense one of his masters, thinking of how many years had passed since I had been under his disciplinary control, and looking to my own scanty white hair, I used to marvel at the abundant raven locks without one silver thread that still graced Duncan's head. A younger nephew, Peter, also for some time assisted in the school.

In the earlier years of my school days a curious custom was observed of bringing a present of money to the masters on Candlemas Day, the 2nd of February. I recollect that my father's donation used to be half-a-crown to Patie, eighteen pence to Duncan, which I suppose was the average for persons in his position in society. One boy used to bring a sovereign for Patie, but he was looked upon as an exceptional boy in this respect. The children of poorer parents, who could not afford to make this free will offering—for there was no class division of rank in school attendance in those days—did not appear at school that day, and after the collection of the tribute, the remainder of the day was a holiday. I suppose the custom represented some old Roman Catholic Church observance.

At Patie's, our battle ground was what we called "between the twa hedges," near the Lower Walk, now represented by the little lane to the west of the Episcopal Church ground. Here it was common to decide a dispute by a fight "owre a bonnet," a cap being held at arm's length by a couple of boys to prevent the combatants coming into close grips in the contest. The challenge was "I'll fecht ye atween the twa hedges," and when we were let loose from lessons at 4 o'clock, thither the whole school rushed down with whoop and halloo to witness the pugilistic duel.

The playground was the vacant space in front of the school called Cowane's Yard, extending down to Spittal Street, the flesh market wall on one side, the row of lime trees on the other. It seems to me that the games of schoolboys are not now what they were in my time. One that was common then was Scotch and English, on the principle of the modern tug-of-war—rather destructive to clothes, particularly as regarded the buttons of our jackets. I do not notice it being played now. Neither do I see the boys with peeries, which were much in vogue in my time. It was an ambition to be possessor of a peerie with a steel "shod," to be used as a weapon of offence against the other peeries, like the steel spur of the game cock. The games with marbles, or "bools," also are changed. Our principal one was "bool in the hole," one that required a good deal of science. I fancy I could almost yet enjoy a game of bool in the hole. We had also "winny," a name that speaks for itself, but that was not so much played. The boys now appear to me to have no real game of skill with marbles, only one in which the sole object is to become possessor of

the others' bools, and football and golf seem now to replace our old athletic amusements.

Still descending from the upper part of the town, Spittal Street, except for modern improvement by widening in some places, and the erection of the Industrial School now occupied by the girls, and of the very commodious Allan's School that now replaces the old structure, which had fallen entirely behind modern scholastic requirements, remains to appearance much in the same condition as it was. In those days the Roman Catholics met for worship in "an upper room" of one of the tenements on the left hand, now a workshop. Some of the members of the congregation walked in from long distances, owing to the great paucity of Roman Catholic places of worship in the district in those days. The members of that communion in Stirling were very few, even among the lower class. A prominent member of the congregation was Mr Duncan M'Nab, writer. There was also "Mooshy" M'Nab, as we called him, a gentleman who had been brought up and had lived in France, whence, as I understood, he had escaped during the troublous time of the great Revolution. He lodged in Queen Street, and there taught French. He was my preceptor in that language. There was, later on, also Mrs Macdonald, a widow lady, who came to reside in Stirling with two daughters. The Priest was Father Paul MacLaughlan, who served at the altar in Stirling for many years, a most amiable and worthy man, and universally respected. Some twenty years ago he was removed to the charge at Doune, and died there. The chapel in Irvine Place, which owes its erection chiefly to his zealous exertions, was opened for divine service on Trinity Sunday, 1838.

Baker Street looks also much the same. At the foot of it, on the site now occupied by the Bank of Scotland, was the Saracen's Head Inn, the entrance door looking up the street. Over it, or at the corner of the building—the former according to my recollection—swung a sign according with the name of the hotel in representing the half length figure of a fierce warrior in eastern costume wielding a mighty scimitar. The Post Office was on the other side of the way, where it begins to be called King Street, in very mean premises situated up a close. It is somewhat curious to note the various changes of accommodation that most useful of public departments has experienced since then. From the close referred to it was removed to the late Mr Shearer's shop, which was on the opposite side of King Street to that which he afterwards moved to, now occupied

by his son and successor. The late Mr R. S. Shearer's uncle was then postmaster, next to the premises in Murray Place in which the grocery business of Lennox & Co. is now carried on; again, further along the street to what is now the shop—also a grocer's—of Yates & Co. Lastly, the house was purchased at the north end of Murray Place, which after nearly 20 years of occupation has just been pulled down to make way for the erection of a more commodious building, in which we look upon the Post Office as to be at length permanently established—a position, I must say, by no means so central or convenient for access as could be desired. As to the outside postal work, I think there used to be two deliveries daily, which were overtaken by the postman, David Bell, single handed, carrying the letters in a small japanned tin box under his arm. His progress in the delivery was much retarded by his having so frequently to wait to receive the postage for letters not prepaid. Here I would like to recall the fact, that, when a uniform rate of inland postage was introduced, the Government did not at once adopt Rowland Hill's proposal of penny postage; but, being no doubt timid as to the great loss of revenue which they feared would follow on such a sudden and bold reduction, fixed it at fourpence. Anyone who could have prophesied what the result was really to be, would probably have been regarded as a visionary, or perhaps as actually insane on that point. The fourpence rate was not long continued.

King Street did not then present the well-built aspect it now has. On the west side the ground rose up steeply from the pavement below, and a number of the tenements on that side, about the middle of the street, were only low thatched houses. I think it was in the year 1824 that a very destructive fire took place here. It broke out in Mr John King's joiner's shop, and burned the greater part of three closes. After that began an improvement in the style of building, until King Street gradually came to assume its present well-built stately appearance.

The eastern portion of Port Street, "The Port," was in those days so narrow an entrance way to the town, like the neck of a bottle, that, encountering the mail coach, or other vehicle, one was fain to seek refuge in a doorway or close mouth to escape being run over, or at least well "jauped" with the mire that particularly abounded there in moist weather. At the west end of this contracted part was a stream open to view on the right hand, passing

under the street, as it still does, and re-appearing on the other side, and there stone confined in a cut channel, was made use of by a firm of dyers for washing their yarn. Here one or other of the much respected partners might any day be seen astride of the stream, with bare arms dyed to the elbow of the brightest hue, according to the colour being used, rinsing the newly-dyed yarn. In the wider part of Port Street on the south side, and near the commencement of Pitt Terrace was Sawers' Inn, a hotel of some pretensions, now converted into shops and dwelling flats, but still cognisable by a porch with a pillar on each side that formed the entrance. It was the starting place of the Defiance, a four-horse coach that ran daily to Edinburgh. This coach was for some time horsed by Mr Ramsay of Barnton. On the opposite side, in one of the tenements composing Allan Park House, resided, until he built two villas in Allan Park, and went to live in one of them himself, my uncle Dr Galliers. He was a retired army surgeon, and had served in the same regiment with my father, the Royal Scots. He had seen much active service in the Peninsular war, and was present at the battle of Waterloo. My aunt accompanied him to Belgium, and I have heard her speak of her having the day after the great battle ridden over the field in search of her husband. When George IV. visited Scotland in 1822, all over the country demonstrations with flags, floral decorations, &c., were made to testify the loyalty and joy of the people. My uncle prepared with his own hands a placard resplendent with some glittering powder adherent to it, and inscribed in large letters G.R. IV., which he displayed outside on the wall of the house. While he was watching what effect this loyal chef-d'-œuvre would produce on the passers-by, the worthy doctor was greatly disconcerted by overhearing one of the country folks, who were flocking in to view the decorations, after gazing for a little at the placard, say, with a puzzled air to his companion, G R I V "Griv! I wunner wha's Griv!"

From this end of Allan Park out to Laurelhill there was not a house until the late Sheriff Sconce built the one now occupied by my namesake, our respected Town Clerk, and I recollect that surprise was then expressed at the Sheriff building his house so far out in the country. I believe that the oldest house in Allan Park is that which was built by Dr Dobbie, afterwards acquired by my father, the one that is seen at the top of the road looking up from the Black Boy. The one last built is the adjoining

one, Mrs Ellis', erected by Mr Henderson, writer, after we came to live in Allan Park. An attempt was made to change the name from Allan Park to Wellington Place, and the latter designation was put up for a time at the Back Walk extremity of the Street, but, I believe for political reasons, "Wellington" being taken as representing Tory opinions, the alterations did not meet with sufficient favour, and the old name held its ground.

The gusset of ground enclosed with the Black Boy fountain in the centre, then a vacant space, was the mustering ground of the Stirling Troop of the Stirlingshire Yeomanry, where they used to assemble before proceeding to the King's Park for drill with the rest of the regiment. There were five troops, the Stirling, Falkirk, Kilsyth, Campsie, and Culcreuch troops. The ranks of the country troops were filled mainly by farmers and their stout stalwart sons, mounted on strong agricultural horses, one inducement to join the Yeomanry being that the charger was exempt from the Government tax. The members of the Stirling Troop were of various occupations and professions, several of them, as I remember, writers in the town (our Town Clerk's father, and predecessor in office, was one of the officers, and, if I mistake not, Mr David Chrystal's grandfather was a sergeant), and their horses were of a finer and lighter stamp. The uniform was a short scarlet jacket and blue overalls, with a helmet furnished with horse hair. I do not recollect how long the annual training lasted, but I think it must at one time have been over a week, as I have some recollection of seeing yeomen in uniform in church on Sunday. The annual calling up of the Yeomanry was a considerable boon to the town, as many of the men were billeted in it, and their horses put up in the stalls of the vintners and other available stables. The time when they were out naturally provided a good deal of excitement for the boys. Apparently we did not hold them in any great respect or awe, for we were always ready to salute them with their nickname of "Soor Dook Geordie." This by no means complimentary epithet referred to the habit these rustic cavalry men had, on being dismissed from their morning drill, of making for the milk carts, then busy in the streets distributing the morning supply, and indulging in copious draughts of buttermilk, or "soor dook," to cool their heated frames. The regiment, during its existence, had the rare experience (for auxiliary troops) of a kind of active service, for it was called out to assist in putting down the Radical rising that took place in

1822. What active part these Yeomanry took in the conflict at Bonnymuir I never heard, but they were employed in escorting to the gaol in Stirling those who were made prisoners on that occasion. It is not uncommon now to hear those, who were tried and sentenced for their participation in this seditious abortive insurrection, spoken of as martyrs who were harshly dealt with for giving utterance to political opinions that are now widely entertained, and openly proclaimed without any restraint or fear of punitive consequences, some of the changes then demanded having indeed been since legalised by Parliamentary enactment. But this seems to me to be a misapprehension of the facts, for these misguided men were tried and awarded various degrees of punishment, not on account of their political tenets, but for the illegal action they resorted to for giving effect to them. Apart from the beheading, which is not in accord with the more humane sentiments of the present age, no Government, whatever might be its political complexion, could with safety have shunned the duty incumbent on it of sternly repressing the ill-judged and mischievous rising, and bringing to justice the foolish men who were so endangering the maintenance of public peace and order by congregating in arms—even such wretched and contemptible arms as they were—against the constituted authorities of the realm. I cannot tell when the regiment was disembodied, but it must have been before the Queen's first visit to Scotland in 1842, for some former members of the corps, as I am told, turned out on the occasion of her coming to Stirling—when my father, as Provost, along with his Council, awaited her arrival at the Bridge, and presented to her the keys of the town—to form a guard of honour to Her Majesty, but without uniform or accoutrements. The annual period of training wound up, as is usual in such cases, with the Yeomanry Races held in the King's Park.

Older, I believe, than the Yeomanry Races were the Chapmen's Races, which came off once a year, also in the King's Park, the chapmen being a society composed chiefly of merchant traders of the town. In olden times, as I understand, these Chapmen were the pedlars who travelled through the country districts when communication with the towns, owing to bad roads, was rough and tedious, in order to bring their wares to the doors of the scattered rural population. A chief event in the Chapmen's Races was riding at the ring, in which the competitors, furnished with a long rod, riding at a certain speed, tried with it to carry off a small gold ring

lightly suspended above from a sort of arch, so as to be easily detached. The winner held possession of the ring for a year, when it was again competed for. A very successful jockey at these races was named Dobbie, and in our schoolboy play each of us was ambitious to represent "Dabbie." In the old days the course followed the edge of the high ground above Pock's and Garrow's Wood, a track well calculated to put the wind as well as the speed of the horses to the test. A new course, keeping on the flat, having been made, the Stirling Race Meeting was instituted, and was continued for a number of years, until, owing to growing opposition to them on the part of the inhabitants—stirred up very much, it was said, by the zeal and activity of the late Mr Peter Drummond—these races were put down, a consummation that must be approved by all who reflect on the evil adjuncts that seem to be inseparable from a race meeting.

There was formerly—and indeed when I left Stirling in 1841—no Murray Place issuing from the foot of King Street, although, besides by the way of King Street and Friars Wynd, the lower end of the Wynd could be reached by passing through the coach yard of the Golden Lion Hotel, by "Gibb's Entry," as it was called, the site of which is now occupied by Mr Shearer's shop. The hotel was more commonly, from the name of the landlord, called Gibb's Inn. Mr Gibb was a remarkably quiet looking man of spare habit, who passed most of his time working in a garden at the lower end of the Back Walk, the ground on which Allan Park Church has since been built, and did not appear to concern himself about the management of the hotel. That was very efficiently attended to by Mrs Gibb, who, with her portly figure, blooming countenance and active bustling manner, presented the *beau ideal* of a most capable landlady. Through the coach yard access was obtained to a lane through garden ground, part of which bore the name of Spring Garden, that followed the course of Murray Place as it now is. One could also get to this lane from the foot of King Street by the way of the Dirtin Tide, a collection of the sewage that came down the surface sewers, or "sivers," from the upper part of the town, gathered there, and gradually found its way to the adjacent Burgh Mill dam. This unsavoury malodorous "stank" —suggestive word—occupied what is now Orchard Place. I do not know when the Mill Dam—fed chiefly by the Town Burn coming from the direction of Easter Livilands, and crossing the lower part of

the Craigs—was filled in. The site of it is now chiefly occupied by the vinegar work. The mill still stands, and the upper portion of it has been utilised as a smithy for the Gas Work.

The coach route passing through Stirling to the North was in some parts very narrow and tortuous, viz., by Port Street as I have described it, up King Street, down Friars Wynd, along Viewfield Street to Cowane Street, and so on to the Old Bridge, which with its high centre arches and very limited width was itself a danger for any fast travelling vehicle. The New Bridge, after being about a couple of years or three in constructing, was opened for traffic I think in 1831. Much as it was needed to facilitate intercourse between the north and the south, Stirling being the first point from the Firth upwards where the Forth was bridged, the erection of this new bridge was at first strenuously opposed by the county gentlemen of the neighbouring districts, some of whom to avoid the expense of a new bridge would have preferred some scheme for improving the old bridge. When we lived in Queen Street it was one of our common evening amusements during the construction of the bridge to walk down to the scene of the operations and watch the process of driving the piles within the area of the large coffer dam. This pile driving was done tediously by manual labour. Now, of course, it is effected with marvellous rapidity with the help of powerful mechanical arrangements. I recollect the laying of the foundation stone with pompous masonic ceremonial, on which occasion there was an imposing procession of public bodies and societies of the town and neighbourhood. The schools took part in it, and I well recollect, as a small boy, one of Mr Weir's scholars, marching with a small tin medal suspended by a blue silk ribbon round my neck. It seems to me as if the masonic tune of "The Merry Masons," as we styled it, played by so many successive bands on that day, never afterwards entirely ceased to vibrate in my brain.

Viewfield Place was a nursery garden cultivated by Mr Peter Runciman, who lived in the old-fashioned house at the east end of it. He had a seed shop at the foot of Broad Street. He was one of those who were distinguished by a nickname, being called Paiddle Runciman, from a peculiarity in his gait owing to his having rather large splay feet. After his death Viewfield House was occupied by his brother Dr Runciman, a retired naval surgeon.

Before the formation of the road from York Place to the new bridge, the Cow Park extended from

behind Cowane Street down to the river. Since then it has been so cut up and altered by railways and roads and buildings that its very name has fallen into abeyance, and I suppose most of the present generation would be puzzled if asked to say where the Cow Park is. The name indicates the use to which it was put, viz., for pasturing the cattle belonging to the town, and especially the cows that furnished the milk supply. The park was a very pretty and attractive place, intersected by a number of tall hawthorn hedges, useful to the cattle as a shelter from sun and rain, separating it into different divisions with free access from one to the other. Often have I in the summer school holidays rambled there through its grassy glades.

Up to the time of my leaving Stirling, Queen Street was only very partially built. On the east there were several gaps, and on the opposite side the only houses were four or five at the foot of the street. Above them was a whinstone quarry, and the rest of the ground was used for vegetable gardens, one of which was cultivated by my father when he occupied the house at the top of the street on the other side.

St Mary's Wynd—(when is it to be called St Mary's Street?)—is not much altered. A few better tenements have replaced thatched cottages at the foot of the street. The Marykirk is quite a modern addition. The upper part of Queen Mary's Lodging —so called, for I do not know that there is any record of its having been occupied by Mary—was taken down when, through age, it had become unsafe. My recollection is that over one of the windows were initial letters and a date of the 17th century. The Episcopal Schoolmaster's house belonged to my ancestors, the Gibbs, and in it my father and mother were married. In my younger days it was occupied by Mr Robert Campbell, grandfather of our townsman, Mr James Campbell, banker. At the top of the wynd, on the right hand, just before emerging into Broad Street, a doorway looking down the wynd, with a few steps in front, gives access to a stair that led up to the premises of the old Stirling Bank, an institution that collapsed in the year 1826.

Upper Bridge Street, with the exception of some little addition at its lower end, is also just as it was. The Right Rev. Dr George Gleig, Bishop of Brechin, and Incumbent of the Episcopal Chapel in Viewfield Street, lived in one of the houses on the south side of the street, a very modest mansion for a Bishop's palace, although perhaps not altogether

out of keeping with the humble ecclesiastical position occupied by the Episcopal community in Stirling when their first church was built a hundred years ago.

I am old enough to remember very well when the streets were lit with oil lamps, and a familiar object, as evening drew on, was the "leerie" hurrying along with his ladder and flaming torch to set them alight. The rhyme with which we children greeted him still adheres to my memory, "Leerie, leerie, licht the lamps; lang legs and crookit shanks." The amount of illumination these lamps shed around was faint indeed, not sufficient to disclose the irregularities and puddles of the roadway between each. They did not serve much more than to guide passengers on their way, as the lighthouses that stud our coasts enable the mariner by the bearings he takes of them to steer his course up or down the channel in a dark night. The illuminant was train oil, then greatly more abundant than it is now that the cetaceous tribe in Arctic seas have been so sadly decimated by the whalers. It was used also in kitchens to burn in very small lamps, whose feeble glimmer must have sorely tried the eyesight of those who ventured with its aid to engage in sewing work; but I think the servants then were more given in their spare time to ply the spinning wheel than the needle. In the dining-room and parlour, candles were burned—of tallow for common use—requiring constant attention to snuffing, an art one had to make some study of to acquire the requisite dexterity. How vastly more favourably are we situated now, where gas is not available, with paraffin oil and candles to resort to, so cleanly to handle, and so brilliant in the light they afford, compared to the dim illumination of the rancid train oil and greasy "mutton fats" of former days. A story was current while oil lamps were in use for street lighting, that the sailors of Russian ships that came to Leith used when on shore to climb the lamp-post, blow out the light and suck up the oil as a delicious dainty that they were accustomed to in their own northern country.

Gas was introduced into Stirling in 1826. I recollect the first night the town was lit with it. People were out in the streets as they would be now at an illumination. I remember one or two of the fancy devices of lighting in some of the shop windows to attract attention—for instance, in a shoemaker's at the foot of Baker Street, the gas jet issuing from a spur on the heel of a boot, and in a tobacconist's in King Street—I think it must have

been Snuff Wricht's—the bust of a negro with a cigar in the mouth, the jet of gas from which alternately shortened and lengthened to suggest the act of smoking. Many people were timid at first about introducing the gas into their houses, being apprehensive of its reputed highly explosive qualities. My father, who for many years took a very active part in the management of the gas company—services which the shareholders recognised by presenting him with a handsome silver salver—was one of the first to take the gas into the house. The price of the gas was at first fixed at 15s per 1000 ft., just four times what we are now paying.

I have already incidentally alluded to the water supply of the town as being furnished by the water being first conducted from the Touch Hills to the Reservoir in St John Street, thence to the public wells that were distributed in the streets in what were supposed to be the most convenient positions for the inhabitants. I think there were not more than half-a-dozen of them in all, if so many. There was no domestic supply to houses, such as we now have, and for which, I believe, we are mainly indebted to the zealous and persevering exertions of the late Dr Forrest. There were private wells attached to some of the dwellings in the lower parts of the town. I know there was a pump well in our garden in Allan Park that yielded a plentiful supply of clear sparkling water, also a small stream at the foot of the garden, in which we used to catch minnows. That was before the formation of a regular system of drainage for sewage, when such purling streams were utilised as sewers, and the wells became polluted through soakage. The inhabitants in general were obliged to store in their houses the water drawn from the street wells, usually in stoups—a deep wooden vessel, narrower towards the top, which was crossed by a wooden handle. In carrying a couple of these stoups a hoop, or "girr," was commonly made use of to keep the stoups away from the limbs. Two stoupfuls being thus carried at once were called "a gang" of water. In summer, when frequently the supply ran short, the water was let into the wells at a certain hour for a limited time, and it was necessary then to procure a supply that would last for twenty-four hours. Naturally there was a rush of the housewives and servants to the wells at the hour the water was let on, and even before in anticipation of it. The attendance on these occasions was regulated in an orderly and methodical manner, each expectant taking her place as she came in the long *queue* (as our

French neighbours call it), that extended many yards down the street, and gradually advancing to the well until it came to her turn to fill her stoups. There was thus no undue crowding, or jostling, or wrangling; except, perhaps, in the rare case of some tricky lass who would take advantage of the inadvertence of one who had left her stoups unwatched for a little, and, shifting them to her own less forward position, would substitute her own in their place. The servant lasses did not altogether dislike these drawings of water, or object to their time being expended on them when it might have been usefully employed at home in other household duties, as it afforded them good opportunities of exchanging the clash of the day with those congregated there.

The conditions of domestic service were in those days very different from what they now are. In the first place, servants, once they were settled in a situation, did not readily think of making a change, unless, perhaps, it was a matrimonial one, but remained for years in the same place, even assuming the name of the family with whom they lived, and dropping their own, so that Kirsty M'Gregor, Janet M'Niven, Bell Black, Annie Stevenson, were better known as Kirsty Sutherland, Janet Galbraith, Bell Boyd, Annie Lucas, &c. How different now, when the restlessness of our domestics incites them to such frequent changes that they remind one of the shifting of the slides at an exhibition of views with the lime light. With this fixity of tenure the relationship between mistress and maid was naturally of a much more cordial and kindly character than what now obtains. At the same time it did not give rise to any undue familiarity, the former retaining her legitimate authority, and the maid not presuming on her mistress's condescension, nor lifted up with the notion that some of the girls seem now to entertain that Jane is good as her mistress. This showed itself in the style of dressing. The ordinary dress of the kitchen lass was the shortgown—a body, I believe, it would now be called—without skirt, and woollen petticoats; while the cap, or mutch, was a more capacious, but less ornamental, headdress than the badge of her honourable occupation now worn by the domestic servant. For best clothes there was no attempt, by a study of the fashions of the day, to imitate those above them in social position. Neither, of course, did they claim the title of that much misused word "lady." In these respects I think the old ways were better than the new. Women of the lowest class are now-a-

days—at least by their fellows—styled ladies, and I think we should, for distinction's sake, resort to the good old English appellation of "gentlewoman" for those entitled to it.

Wages were of course much lower, perhaps about a third of what we give now. At the same time the work was more exacting; yet I think not less willingly and cheerfully performed, perhaps even more so. I remember a curious task that used to be laid on the servants, one that the girls would now very properly scorn to execute. There were in those days of free beggary, and absence of a Poor Law system, a number of cripples, at least of self-called cripples, who travelled over the country in hand barrows, and the servants were expected as I have often seen them do, to pass them on from door to door in their quest of alms, the servants in adjoining houses helping each other, if need were, in carrying the barrow a stage further along the pavement. Thinking of this curious phase of mendicancy, I am puzzled as to how his progress was continued when the cripple arrived at the extremity of a town or village with a stretch of road destitute of houses. I was too thoughtless in my young days to think of this difficulty. Possibly he just took up his barrow and carried it on himself.

In those days of no proper police organisation every town had several daft creatures who roamed about the streets, most of them harmless imbeciles, some viciously inclined and dangerous at times, tolerated by the inhabitants as objects of compassion, too often teased and irritated by the boys. Stirling had its quota of these characters. Fumler Lawrence, who was minus a leg, belonged to the more dangerous class, as he would sometimes, poising himself on his remaining limb, administer with his single crutch, or "stult," a vicious blow to some unoffending passer-by. He would also burst into a kitchen and terrify the maids. Daft Pate, a little stooping man, whose prognathous countenance favoured the Darwinian theory of descent from a simious ancestor, was a harmless creature, attired in a soldier's cast off red coatee. He attended all funerals. His favourite haunt was about the Apothecary's Hall in Baker Street, then kept by Mr Kirkwood, where on a fine day he would be seen stretched at length on the pavement basking in the sun. He had no turn for any active occupation, and when roused from his dose and asked to do some light job, his reply was—"Oh! Am thrang i' noo."

Before the formation of the railway system, which by presenting facilities for easy and rapid inter-

communication has revolutionised the civilized world, and is now extending its influence even over regions deemed to be entirely without the pale of civilisation, the modes of travel on land were in comparison slow, irksome, and expensive. For journeys of any considerable length there was the four-horse coach, carrying four inside passengers and about a dozen or fourteen on the top. The smartly appointed four-in-hand, with its amateur driver and guard and passengers, which occasionally passes through the town on a summer day, serves to keep up a remembrance of the old stage coach. Along the mail routes from London there was the royal mail also available, with the guard and the driver attired in royal scarlet, carrying in like manner four inside, but, on account of the guard who sat on a seat alone, fewer outside, all at a higher rate than by the ordinary stage coach. The accommodation being limited, it was customary, in order to avoid disappointment, to book places at the coach office one or more days before that of the intended journey, thus securing the right to a seat. Hence the name of booking office has been transferred to the place where tickets are taken at the railway station, although, of course, there is no booking of places there, the choice of seats in the carriage being arranged according to the rule of first come, first served. I have known instances of Colonial friends, who had gone abroad before railways had become common, and had come home for a visit to "the old country," when about to take a railway journey, propose going to the station the day before to take out tickets and so secure their seats. The title of guard, applied to the conductor of the railway train, is also taken from that of the official whose duty was originally to act as a protector against highway robbers. Another instance of association between coaching days and railway travelling might be noted in the form of the first class carriages, which at first were fashioned on the pattern of the stage coach. I recollect such was the case on the London and North Western Railway when I made my first journey to London in 1840, and even within the last twenty years, I have at times, on country branches, seen some of these antiquated coaches form a component part of a train, when, I suppose, there was a deficiency of respectable looking carriages available. The fares by the stage coach and the mail were considerably in excess of the rates at which one now travels by train in circumstances so much superior as regards both speed and comfort,

and what added to the expense was the fee that had to be handed over to the driver, and to the guard, when there was one. A remains of this objectionable exaction may be found in the coaching portions of the circular routes arranged by railway companies. Besides the mail there were at least two stage coaches that passed through Stirling—"The Fair Maid" from Glasgow to Perth, which changed horses at Gibb's Inn; "The Soho," and after it "The Defiance" from Sawers' Inn, which connected Stirling with Edinburgh, and I am told also with Perth, although my memory does not serve me for that. Miserable enough it was in bad, and especially in severe winter weather, travelling outside, making futile attempts to stimulate the circulation of the feet by continual stamping with them, to the great annoyance of the inside passengers in the compartment below. I can think now, on the occasion of coming home from the Edinburgh classes at the Christmas recess, of the clambering down with difficulty from the top of the Defiance, and, on attaining to the ground, being scarcely able at first to support myself on my temporarily paralysed limbs.

Instead of going all the way by road to Glasgow, a route commonly taken advantage of, was by coach to Lock 16, near Castlecary, thence by canal to Port Dundas, its termination in Glasgow. My earliest recollection of the canal boat is of a large decked craft which was tugged along by a couple of horses at a rate of between three and four miles an hour. One left Stirling early in the morning and reached Glasgow some time in the afternoon. That would scarcely accord with our present notions of travel. The heavier boat was supplanted by a long, low, narrow boat with an arched roof, or tilt, of painted canvas, just high enough for one to stand upright under it, and a low seat on each side all along. In the centre of the boat was an uncovered space for luggage, that also made the division between the cabin and steerage passengers. These "fly-boats," being so long, light, low, and narrow, were drawn by the horses at a much accelerated speed, and it was considered quite rapid travelling. I recollect on my first journey to London I set out at 7 a.m., reached Glasgow by the canal in due course, spent the rest of the day there, at night went on board a steamer for Liverpool, whence next morning I continued my journey by the London and North-Western Railway, and finally arrived at Euston at 4 p.m. I considered it a matter for boasting to say that I had breakfasted in Stirling

the previous morning. What a change to the facilities of the present day, when at far less cost, in a comfortable, almost luxuriously fitted compartment, with infinitely less fatigue, one can accomplish the same journey in nine or ten hours without even a change of seat.

The favourite route to Edinburgh up to the time of my leaving Stirling was by steamer down the river. There must be a good many yet alive who remember Captain Gentles, the genial skipper of the "Lady of the Lake." As now, it was necessary then to study the tide for access to Stirling shore, but when it was not full tide the steamer often anchored in the reach on the other side of Cambuskenneth—"the back of the Abbey," as we called it—to receive and disembark passengers, who were conveyed from, or to, the shore in a large boat towed by men walking along the river bank. This was not an agreeable part of the passage, particularly after arrival at the back of the Abbey in the darkness of night. The voyage in the steamer was usually greatly enjoyed. Being performed in a leisurely manner, opportunity was afforded for partaking of the good substantial meals that were provided on board, to which the fresh air on the river gave zest. I have a lively recollection of the savoury cutlets of kippered salmon that often appeared at the breakfast meal. The landing place was the Chain Pier at Newhaven. This was before the formation of the dock at Granton, the opening of which I remember, in 1838, when I was still attending the classes at Edinburgh. The pier, with its wooden stair slippery with marine ooze, was a risky place to disembark at after dark, with the aid of a lantern or two, that rather confused than enlightened, and especially for the passengers who had partaken of dinner and other refreshments by the way. I never knew of an accident there, but I have seen one or two hats floating at the pier, the temporary loss of which was apt to be associated with some unsteadiness in the heads they had lately been covering.

Speaking of the Stirling steamer reminds me how differently on one's return to home after visiting foreign climes, one sometimes regards objects and scenes amid which one had been brought up. While waiting for admission into the Army Medical Service, I made a voyage to Madras as surgeon of an East Indian trader. The ship—a sailing one, of course—was of respectable size for those days, although very insignificant in comparison with the leviathans that now traverse the seas. The Captain

having been an officer in the old Company's marine, she was handled somewhat in man-of-war fashion, the orders in working the ship being executed to the sound of the bo'sen's pipe. When I again stepped on board the steamer at Granton I was surprised to see what a very small craft she was, and in pacing the deck to find it was just, as the sailors say, "three steps and overboard." But the climax came in the style of making sail, when the Captain —not Captain Gentles by the way—called out to one of the hands, "Hay! Wallie, rin and lowse the jub." In like manner, returning from long residence in Australian colonies, where eucalypti and other forest trees attain gigantic proportions, growing to a height of 300 and even 400 feet, I got quite a shock in again looking at the fine elms and ashes that enhance the beauty of the western approaches to our town, and involuntary exclaimed, "Trees! Why these are but bushes." I am glad to say that in the time that has since elapsed I have learned once more to admire, and justly to appreciate the fine proportions of these noble trees with their luxuriance of leafage, and varieties of tints, charms in which the Australian trees are deficient.

For the smaller towns within shorter distance of Stirling, such as Dunblane and Falkirk, there was a public vehicle called a noddy. My recollection of its construction is not very clear, and I cannot find any one who can help me in it, but I believe the noddy was just a square box on wheels, made chiefly of leather for lightness, entered from behind as in the 'bus; although I think there must have been some variations of structure, for according to my memory the Falkirk noddy had two compartments, the posterior of which was called the basket. It seemed to me that the noddy owed its name to its lively action on the springs when in motion. I recollect an Irish friend, who paid a short visit to Stirling, saying that the items in his hotel bill that particularly attracted his attention were "noddy" and "toddy"—I rather think a good many repetitions of the latter.

For a trip to the country in far back times a cart provided with sacks and stuffed with straw for seats was a mode of conveyance by no means despised by our simple seniors. In my days of juvenility for a country excursion a very favourite vehicle—one that seems now to have entirely gone out of existence—was the drosky, a kind of double gig, seated for four. Many a well remembered pleasant day have I had with a happy party in a drosky.

In my young days old Scottish annual observ-

ances were kept up that are now mostly entirely disregarded. Hallowe'en was a festive occasion universally observed, with pulling of kail stocks, dookin' for apples, burning of nuts, &c., and we boys always managed to have a turnip abstracted from a field, to be hollowed out, a face shaped on it, and lighted with a bit of candle inside. Hogmanay gave us much excitement on account of the guisers, who went from house to house giving representations of the quaint play in which "Goloshens" was a principal character. We had the rhymes by heart, and often did my brothers and I rehearse the piece among ourselves. These guisers were well grown young fellows, and generally dressed suitably for the parts they were to play. On my return from abroad I found the old custom in a state of decadence, and it gradually dwindled until a couple of urchins with blackened faces, and a night shirt over their ordinary clothes, offering "to sing ye a sang for a penny," came to represent the troupe of guisers. Even this miserable ghost of the old custom has apparently retired into the land of oblivion.

Christmas Day, now coming to be so much observed in Scotland, was taken no notice of, except in a few families, of which ours was one. New Year's Day, the great Scottish festival, still holds its ground. Amid the different opinions as to drinking habits now and in former times, my impression is that there used to be more drunkenness then than now, and that it was more lightly regarded. First-footing was common in the better class of society, and I recollect my father sallying out at midnight with a silver kettle charged with "het pint," a beverage compounded, I believe, of beer, whisky, hot water, oatmeal, and spices, to be first-foot to some of our old female relatives. Hansel Monday was a holiday greatly observed among the rural population. The favourite amusement was shooting at a mark, and I believe the orthodox object of aim was a cock tethered to a stake. I distinctly remember the frequent reports of the fowling pieces to be heard on that day all round the town.

Valentine Day, the 14th of February, was everywhere celebrated, and for a month before its advent there was in the stationers' windows, and also in those of shops whose goods were of a miscellaneous character, a great display of the valentines, amatory, and comic, that the young people were in the custom of sending to one another. This long established custom has of late years entirely fallen into desuetude, seemingly replaced by the so rapidly extending

and more kindly and friendly interchange by cards of Christmas and New Year greetings.

Before railways had tended to equalise over the country, the cost of the necessaries of life, Stirling was rather a cheap place to live in, and this, together with its many amenities, attracted to it a good many who were not engaged in business, notably officers retired from the public services, with incomes that just enabled them to live moderately, but comfortably. With so many families of this class resident in Stirling, society was of a very pleasant character. Being, as in other provincial towns, then isolated from the rest of the world by reason of more tedious and less frequent intercommunications, the residents were more drawn together among themselves, and there was more heartiness and true friendliness in their social intercourse. Everyone was acquainted with everyone else, and they were truly sympathetic in each others sorrows and joys. They had plenty of leisure time at their command, and the gentlemen were fond of meeting in Provost Forman's shop, as I have before said, and of resorting to the Reading Room, to talk over the news of the day, and exchange their simple harmless jokes with each other. I think life in the old Royal Burgh was more enjoyable and more satisfying than now. The current was slower, but the stream was more limpid and less troubled. These, our ancestors, resided within the town, or clung closely to its skirts. Now there is a suburban population, in great measure strangers to each other, more widely scattered in the villas that look so pretty to the eye, with their oriel windows, however, badly adapted for our rigorous northern climate, far less cosy than the older fashioned houses. Many of these residents, engaged in business in Glasgow, rush off by train after a hurried breakfast, returning only in the evening. Naturally they cannot take much interest in the affairs of the town, nor in their neighbours' welfare, such as the old people took.

There was a great deal of hospitality in the way of dinners and tea-drinkings of a more homely character than now. For their dinner parties the hosts did not go beyond the resources of their own establishments, except that a woman might be brought in to help with the cooking, but there were few "made dishes," and no hired waiters with white ties. The white tie as an essential of evening attire had not then been introduced, nor indeed was the black dress suit *de rigueur* for full dress. The fare provided was good, if somewhat plainer

than now, and only a little more varied and more abundant than what usually appeared on the family dinner table. Champagne, now a *sine quâ non* at dinners and many other social entertainments, was seldom seen at the ordinary dinner party. I recollect that my father having at a special family gathering produced this wine, now so common, almost to vulgarity, there were present old female relations who had never before seen it, much less tasted it. One of them, after taking her first draught of the effervescing liquor, exclaimed—"Man, Provost, that's fine ginger beer!"

I admit that there was a good deal more strong drink taken at these dinner parties than might now be considered seemly. During dinner sherry, of which on account of the old fashion of the guests "having," as it was called, "the pleasure of taking a glass of wine" with each other in succession, many more glasses were drank than are handed round now by the attendants—a dram, or two, that is after the fish and after the pudding—and strong ale or porter. After dinner, port and sherry—claret was then an expensive wine, rarely seen on the table. When the ladies left there was immediately a call for the hot water, while the host pressed his guests first to take some more wine. The toddy, however, was more attractive. The regular allowance of this seductive beverage was two tumblers, made with a glass and a half of whisky in each. These being disposed of, the proposal was made to "join the ladies." The host begged his guests to brew another tumbler. This was strenuously declined, but when an "eke" was suggested it always met with a willing acceptance. The eke differed from the orthodox tumbler in that it was made with only one full glass of whisky. With so much more liberal consumption of liquor there was naturally more noisy hilarity than at the more staid dinners of the present day. Although no one then would have thought of suggesting that in such joviality the bounds of moderation were in any way exceeded, it might be noticed that some at least of the party had a somewhat dazed look when they entered the drawing-room.

But I must draw my Old Recollections to a close. In doing so, I would fain hope that the same ambiguous kind of verdict may not be passed on them as that awarded to a clergyman, who, after preaching an assize sermon, ventured—no doubt fishing for a compliment—to say to the judge before whom he had delivered it, "I hope your Lordship did not

think the sermon was too long." "Oh, no," replied the judge, "it was not very long." "I am glad you did not find me tedious." "I did not say that," rejoined his Lordship, "I didn't say you were not tedious." I have had a certain enjoyment in the recalling of my old recollections. If the narration of them will have imparted any like pleasure to those who, approximating to my own time of life, can to some extent participate in them, and if it will have interested and mayhap entertained those who have as yet no such reminiscences to fall back upon, I shall consider myself well repaid for any trouble I have taken in committing them to writing. Some of them may perhaps be considered too trivial to be recorded. To use the words of Byron in his ending of Childe Harold, "What is writ is writ, would it were worthier."

The last meeting for the season of the Stirling Natural History and Archæological Society, was held in the committee room of the Y.M.C.A. Institute on Tuesday evening, 17th April—Rev. Mr Goldie, presiding. The minutes of March meeting having been read by the secretary and sustained, it was announced that Professor Aikman, Glebe Cresent, had been duly elected a member of the Society. The name of Mr Faweett Moore, Victoria Square, was proposed by Mr J. W. Campbell for election, and his name will be duly submitted to the Council. The chairman, in a few appropriate words, introduced Mr James Sword, curator, who read a very interesting paper on "The Bird collection in the Smith Institute. At the close Mr J. W. Campbell in the name of the meeting proposed a very hearty vote of thanks to Mr Sword for his most interesting lecture. Mr D. B. Morris followed, with notes on a stone axe head found at Argaty, Dunblane, and exhibited the weapon through the kindness of Mr M'Laren, Glenquhilk. Mr Gilbert M'Dougall exhibited under the microscope specimens of stem eelworms, *telynchus devastatrix*, infesting the stems of spinach and lettuce. The Rev. Mr Goldie, in conclusion, intimated that this was the last meeting of the Society for the year. Good work had been done during the period of session, and many interesting papers had been read. The thanks of the meeting were passed to Mr Morris and Mr M'Dougall, and to the Rev. Mr Goldie for his conduct in the chair. This concluded the business.

THE BIRD COLLECTION IN THE SMITH INSTITUTE.

(By Mr James Sword.)

In directing the attention of the members of this Society to the subject of ornithology, under this title it very probably has occurred to some that a more local or restricted subject, such as the "Birds of Stirlingshire" or "Birds of the Forth District," might more appropriately have been adopted. I decided on the subject, as chosen, because I felt that it was rather doubtful if our collection warranted us, at present, in writing of the birds of Stirlingshire. We have, perhaps, done a good deal in getting up our local birds, but it occurred to me we required to do more ere we tackled what is really to us the greater subject. Some other person, perhaps, will take it up, and if the contents of the present paper can be of any service I am sure it will be a great pleasure, indeed, to help in so desirable an object. To attempt the responsibility of a conscientiously worked-out fauna, and of ornithology in particular, I should say it must be done by an enthusiast in the subject, resident in the district, with his time wholly at his own disposal, apt at observing, and facile with pen and pencil. Even then he will spend the best part of a lifetime ere his notes are sufficiently complete to warrant him undertaking his task. Nevertheless, I hope it may serve some good purpose by dealing with the subject as I set it before you to-night, and show you that though we have got a good way in making an attempt to get the local members singled out, there is yet abundance of opportunities for fresh recruits to distinguish themselves by reducing the general, and consequently increasing the local, list.

It is now seven years since I set myself to draw together the present collection in the Institute. It took a little consideration what line I should take; whether to confine myself to local-taken specimens only, or to widen the circle to British birds. I never for a moment entertained the idea of going beyond that. In any public collection completeness should always be the aim, and in this case to think of a collection beyond British was out of the question. Space, resources, and necessity were all against such an idea. The object of such collections, I take it, is primarily and essentially educative. A strictly local collection would have been tardy in approaching completion; even then it would be wanting in interesting types of our British birds

that the public in general, and those interested in the subject, would wish to see and study, and the collection in this way would fail in its very aim as a useful and easily accessible source of education. Consequently I determined to extend my labours to the British birds, but in doing so I was most careful that it should preserve a distinctive local character and value; in fact, I hope that by thus extending its sphere I increase its local value. To accomplish this I resorted to the simple expedient of using a double set of coloured labels for naming the specimens. One set of coloured labels were placed on local birds, and a label of another colour was placed on the specimens not taken in the district. Several advantages are gained thereby; the collection remains as a whole, and the species, whether local or not, follow on in their natural order, so that a person at all interested in the study finds the specimen he is in search of without difficulty, and also that very same person at once observes whether as yet that bird, so far as the Institute and this Society is concerned, has been locally obtained, or as yet remains outside of what I may call the charmed circle. I need not point out that such students are the most likely to give us practical assistance, and we thus get to the kernel of making our local wants known. A local-taken specimen has, of course, precedence of any not so obtained, and all specimens being separately mounted and movable, the exchange, as occasion offers, is effected without causing the slightest disorder or trouble.

Like as in other branches of natural history the wrangling over classification and specific nomenclature have been bitter and continuous. For the most part, to my mind, the game hasn't been worth the candle, nor do I intend it should at present claim much of our attention. At the best any classification is but an artificial convenience, all having some claim of advantage, and as certainly open to some objection. Nature, up to date, has never accommodated herself perfectly to any classification, and simple but mysterious as ever, I fear we shall fail in having her thoroughly broken to harness. As I have said before, my first idea is to help if I can the seeker after knowledge in this most interesting study, and as yet and very possibly for a good while to come the country enquirer is likely to be satisfied to begin with an eagle and end among the aquatic birds. I have adopted that classification, although it is not quite the latest, and arranged the collection accordingly. However, there need be no difference over the matter, the specimens are as interchange-

able as a set of chessmen, so that when the time arrives that change is supposed to be necessary, whoever has the mind and inclination can build up a new classification every month if he will, but if that is all, I doubt if he has made matters much better when all has been done. A little bit more done in adding to what is already classified, will for some time to come be of more practical benefit.

And now we will proceed to review our feathered favourites individually. My main aim will be to point out some characteristic by which each bird may be identified. To take them up *seriatim* in their classified order seemed rather a dry and formal manner of treating them, and casting about I found what I wished in a most interesting little book written by an enthusiastic and practical ornithologist, Mr Dixon, entitled "Birds of his Rambles." I can hardly honestly say that the idea had not occurred to myself, nevertheless I should not like to appear to appropriate another man's brains without acknowledging my obligation to him. If Mr Dixon's work did not suggest the idea, it gave me confidenee in adopting it. Like Mr Dixon, therefore, I propose to ask you to accompany me in a series of rambles, different of course in detail from his, but the same idea nevertheless. Happily I have no occasion to weary you with a reiteration of the physical features of our district. That has already been most efficiently done before this society by Mr Kidston in his introductory paper on its "Flora." Of the pleasures of ornithology as a study, the aims to be kept in view, the benefits resulting from carefully kept records of observation, and the necessity for the diffusion of a general knowledge and acquaintance with this subject, it is a relief to find that all well treated upon in Mr Lumsden's paper read before this Society to which I refer you.

Taking its area into consideration, I think our district is one of the happiest placed in Scotland from an ornithologist's point of view. Had we a piece of bold rocky coast line we would be almost complete. As it is, I propose to take

A WALK ROUND OUR DWELLINGS, IN OUR GARDENS, AND AMONG THE SHRUBBERIES;

A WALK IN THE FIELDS, IN THE PARKS, AND BY THE ROADSIDES;

A WALK IN THE WOODS;

A WALK ALONG THE ESTUARY, THE RIVERS, AND LOCHS;

A WALK ON THE MOORS; and

A CLIMB UP THE MOUNTAINS.

Treating on these I shall only notice the birds that I know are found in our district, and of which the collection contains local specimens, reserving a passing glance at outsiders, some of which at least I hope to place in a position of nearer relationship by and bye. As with classification, so the above divisions are mere artificial conveniences, and are not intended to define any hard and fast line with reference to the birds habitats. Thus the starling which we have nesting in the dovecot and the old stump in the shrubbery, will as certainly be found picking up his breakfast in the fields, and the cushat from the woods will be met with in the same place engaged in the same pursuit. So also the twite and linnet will be driven from the moorland to seek lower ground as winter approaches, yet the change may in a great measure be regarded as the force of circumstances rather than choice. There is always a certain amount of overlapping in any scheme of divisions, the present not excepted, but, generally speaking, we will, I hope, be able to assign each bird to one or other of these walks as fairly characteristically befitting. As I intend to give a formal classified list of the whole collection at the end of this paper, in which the, or rather *one* of the scientific names of the birds will be given, I will confine myself to the birds' common English names. You will, I hope, thus more easily follow me, and the vain repetition of both seems to me unnecessary here. In a little bird talk, what's the use of talking about *passer domestica*, &c., when sparrow would suit far better.

Proceeding then with our

WALK ROUND OUR DWELLINGS, IN OUR GARDENS, AND THROUGH THE SHRUBBERY,

and taking them in order, I think there is little doubt that the first bird of the house-top to arrest our attention will be the **Common Sparrow.** As there is a good bit of ground to travel, we can do little more than give him a nod of recognition and pass on. The personification of impertinence, and undoubtedly the author of much that is mischievous, he has afforded a subject for much debate. Like all notorious criminals there has been no lack of able advocates to defend his case. Loving birds as I do, it is rather reluctantly I enter the witness box against him, but I feel I must, in his case, appear on the side of the prosecution. On

cross examination, I would admit that the father and mother of the family will purvey a meal of juicy catterpillars for the somewhat soft bills of the juveniles, but so soon as the latter are fit for harder fare, goodbye to any good they will render us; mischief and destruction among our seeds, plants, and flowers is the order for all time. No, friend Sparrow, the good you do is not at all compensation for the mischief. His place might be filled by birds immensely more useful in our fields, gardens and orchards, and we would do ourselves a benefit by giving him notice to quit—but that is easier said said than done—and the discussion of pros and cons is too wide a subject for the present.

The next bird that occurs to me as a bird of the eaves and the house top is the **Starling**. Having dismissed the sparrow, I don't think that in this walk I shall have any more certificates of bad character to grant. At all events I have a warm side to the starling. Some birds attract our attention by their song, others by their plumage, but the starling is attractive by both, besides his sprightly and agile movements are so fascinating that when we are apt sometimes to get a little melancholy, a glance at the happy, lively, and apparently contented glossy-backed dandies as they run nimbly over the grass and pick up now and again their varied diet of grubs, insects, snails and other vermin, should ever set us off at once on a happier vein of thought. Except during the moulting season the starling is more or less in voice the whole year round, but in spring when his coat literally glitters in the morning sun and he pours forth his long sweet song, he is undoubtedly one of our most charming birds. As a mimic he is most amusing. The other day I was much struck with the correctness of an imitation of the corncraiks call one of the birds kept pouring forth at intervals from the roof of one of the houses in Royal Gardens. He must have picked it up months previously during the long summer evenings when hunting for his larder in the surrounding fields. I could not help smiling at the rascal, and if he saw I noticed him one could fancy he winked the other eye and thought "ain't I fooling him beautiful." In common with some other birds the starling returns regularly to its nesting place of the previous year, having a decided preference for a hole in the wall or a tree sheltered from wind, out of the daylight and if possible out of the reach of the schoolboy's arm. Although nesting often in individual pairs the starling is eminently gregarious in habit,

and may be seen at all seasons feeding in flocks. The manner of feeding when in flocks on the open fields must be well-known to many of you, and it is most interesting. They may be frequently seen feeding in the same field, close to, but not quite accompanying, a flock of rooks. More agile in all their movements than the rook there seems to be a tremendous amount of more fuss and flurry in the starling party than their more staid, sable-coated neighbours, but much the same system pervades both. Each is in search of the same diet, and they get about it in much the same way, the individuals in each party are continually passing in front of, and overlapping the birds in the front rank, and birds from the rear are rising and flitting forward to the front, with this difference the rooks keep moving on ever steady yet ever changing, while the starlings again seem to get overwrought in their excitement, and rise in a body at intervals for no apparent cause of alarm, take a sweeping wheel in the air and drop again in the same field, often at or near the part where feeding before, and resume the same proceeding to be again repeated. A casual observer would ascribe these wheelings to alarm, and a person appearing in the field would, of course, set the birds up, but I have repeatedly watched a flock feeding on a grass field in a pastoral district sparsely populated, with nothing within a circle of a mile to disturb them, and the same erratic wheeling movements during their feeding went on. So characteristic is this, that slight acquaintence with the bird will be sufficient for any one to distinguish the flock at considerable distances. After the domestic arrangements of the year are over flocks join together, and thus increase the numbers in the flocks, and then their roosting habits is very interesting. Immense numbers of the birds assemble at some shrubbery or undergrowth, often near a mansion house, one such place is or very lately was in the shrubberies attached to the mansion house of our worthy president, Col. Stirling, at Gargunnock. The settling down proper is accompanied with what to an outsider appears quite an unnecessary amount of chatter and general row, but before settling the flocks as they arrive go through a long continued series of evolutions, very beautiful and most interesting to watch. Only one point more on behalf of my pretty favourite. Have you any doubt of his utility? You have seen him picking up his own breakfast I hope, and gave him credit for the worms, beetles, grubs, &c., he was disposing of in the most business manner. Very well, if you have not the pleasure of providing

summer quarters for a pair, visit some friend who has, and in the fine early summer morning get up early and spend, say an hour or half an hour, within eye range of the starling nursery. If the amount of steady hard work a pair of starlings can get through in that time, in catering for the family wants, does not surprise you and set you a-thinking as to where ever these two birds can draw their supply from, and prove to demonstration that a pair of starlings are worth a basketful of sparrows, you are hard to convince. But we pass on.

The next birds, still birds of the eaves, that occur to me are the **Swallows.** Two birds of this tribe, the martin or house martin and the barn swallow, are birds of the house, a third member of the family the sand martin will come under our notice as we take a turn along the river bank. I have pled for our friend the starling, but surely no one requires to plead for the swallow. Who would hurt a swallow? Why, even the veriest Dick Turpin of shrubbery and hedgerow that gloats over his string of dozens of the eggs of our finest warblers and best of friends will stop short and draw a line at robbing the swallow, for does he not couple the swallow with the robin and the wren, and from the far unknown past he has had it handed down that if "he herries ony o' thae birds' nests he can never thrive again." That the couplet has saved many a brood there is little doubt; one only regrets the list had not been considerably enlarged. To one and all the connection between the swallow and summer is marked, and the advent of the long-looked-for bird sends a thrill of delight to every heart. We have the old adage of one swallow not making a summer; nevertheless, we know very well we are not likely to have the summer till we have the swallow. I have no intention of troubling you with the dry details of technical description and distinction of the species; if you want that you will, I hope, if not already done, add the necessary volumes to your book-shelves and read them at your leisure. When possible I will rather give you a sort of head-mark distinction by which two such birds of the same family may at a glance be distinguished. It may come useful when a 10-line definition of Yarroll would be quite lost. I doubt whether a few of my hearers could tell me a martin from a barn swallow, but as you are members of a Natural History Society perhaps you ought to know. Swallows are swallows all the world over, and everybody knows them. You know the

swallow that literally hangs its mud nest to the upper lintel of your window, leaving a little hole for entrance. Well this year when they return look at that bird as it flies away, and notice it it has a square tail, and on the rump a well defined patch of pure white feathers. That is a martin *(Chelidon urbica)*, and you need never mistake it. The other bird is as readily known, no white spot on the upper part of his dress, which is a uniform steel blue, and at a glance his very distinctly forked tail marks him as the barn swallow *(Hirundo rustica.)* If you want one mark more look at his throat of rich chestnut orange and you must be right. Now these are two birds you can all study at leisure. Of the usefulness of these birds everyone is agreed, fitted only for an ærial life, their wide, gaping mouths, soft bills, and short legs, exempt them at once from evil accusations. If you have never watched a barn swallow returning to feed its young, try and do so this season. You will see that its chin seems quite swollen as if the bird was afflicted with a growth there. If you see that you needn't trouble yourself or the birds either, they are quite happy and comfortable. That is only their funny way of carrying home the family meal. If you intercepted the birds, as I have done several times, you will find the growth to consist of a solid mass of insects rolled up with saliva into a ball, varying in size up to that of an ordinary field bean. Count the destructive insects destroyed in one of these bolusses, multiply that by the number of times it is repeated every day, and again by the weeks of the swallow's sojourn, and you will, I think, look with increasing pleasure and gratitude on our friend the swallow. Friend or otherwise of the sparrow, I hardly think any one will dispute that a pair of swallows are more valuable to us than many pairs of sparrows; yet, how often is this impudent and comparatively useless, bird allowed to drive the more useful from its haunts and even take possession of its nest. You need have no tender misgivings about the matter, take care of your swallows, the sparrow is quite fit to take care of himself.

Next on the list, and still a bird of the eaves, comes the **Swift.** Probably not a few of you have most naturally grouped this bird with the swallow, but with the exception of his buoyant flight and wide gape he has no affinity whatever with the swallows. I only give you the hint, a fireside ornithologist will furnish the generic details. One of our latest migrants to arrive, and among the first to leave, but a most interesting and useful bird. His

clerical dress of uniform black, though of somewhat sooty tone, buoyant flight, wide expanding scythe-shaped wings, and a wild piercing screech mark him out distinctly. Though decidedly a bird of the eaves he is by no means particular as to a place of nesting, a rock, a steeple, a bridge, will suit equally as well, p rvided a suitable hole is found, and in as inaccessiblo a position as possible. The habits and usefulness of the swallows apply equally to the Swift. I have brought an immature specimen to which I will again refer, but as he is here let me meantime direct your attention to the formation of his foot, or more properly speaking, his toes. In swallows and the great majority of birds three toes are placed in front and one behind; the Swift has all four forward and no hind toe. Unlike the swallows the Swift has a most muscular foot, with sharp, strong curved claws, so that he can grasp and cling tenaciously to the edge of a hole, be it rock or the eaves of our houses. The power and control of this bird on the wing is amazing, and to those who have not already done so I can promise a surprise if they will only take the trouble to observe a Swift leave and enter its nesting place. The bird goes full tilt at the rock or house and you make sure it is to dash itself against the rock or wall, but it has disappeared, literally vanished, as quickly and effectively as ever did a clansman of Roderick Dhu. Without wavering or slackening its flight for a moment, the bird appears to fly right into the rock, often so deftly that the eye does not quite follow it. The wing of the Swift is worthy of passing notice. It is as you see long, straight and narrow, and provided with strong pectoral muscles, just the sort of thing wanted for prolonged, rapid, and quick evolutions, and besides to further facilitate these qualities the wing at the joint of the humerus is peculiarly free. So marked is this that when handling a specimen you naturally conclude that the birds' wings are broken or dislocated at this joint. I had observed and was long puzzled with this peculiarity in the formation of this bird's wing before I could purchase the necessary volumes to assist me in getting information. A curious circumstance in the life history of the Swift is the tendency of the young birds to get overrun with parasites. Notice of this fact will be found in a footnote in the latest edition of Yarrell, and I have several times found the young birds in an apparently weakened state so affected. I preserved one of those specimens, and now place it before you, and you will notice that

the plumage is very much damaged, as if clipped with a pair of scissors.

These birds I think are all we can fairly set down to our houses and buildings, others such as the wren, gray wagtail and creeper may sometimes be found nesting about the outhouses, but they come more naturally into another group, and we shall now go forth to our gardens and shrubberies. Perhaps the first group that suggests itself are the thrushes. If you are fortunate enough to have a bit of garden or a few bushes near your dwelling, and at all mindful of the songsters during the biting days of winter, more than likely you will not have to go far afield to find a happy family in the early days of spring. Generally speaking the blackbird may be said to be more inclined to wander farther afield than the song thrush or mavis, but when kindly treated and not disturbed the one seems quite as confiding as the other. In the honeysuckle, on the porch, or in the bush at the entrance gate there you find your pet blackbird or mavis not in the least alarmed while you pass back and forward, and, if you take care not to be too attentive and troublesome, by and bye she will permit you the honour of stroking her back with your finger, while the cock bird will from a neighbouring tree or housetop pour forth his splendid song at intervals from earliest morn till dewy eve. Yes, all very well says the gardener, but what of my fine fruits, your thrushes are all very well in spring, and do some little good, (the chances are that is the limit of his admission) when there is nothing else, but look at that gooseberry break, it's completely ruined. Very likely, and if you like to take the trouble of growing a good crop of fruit, and when nearly ready can't afford the little cost and trouble of taking care of it I hardly blame the birds. I had a very practical lesson in that last year. In the garden attached to a country mansion the old gardener had a very fine break of gooseberries. The employer, a tenant, was a little close fisted, but rather than lose all his crop, he authorised a part to be netted. Stakes and a top rail were driven in, netting got, and from that day not a berry was lost, while from the other portion not a ripe berry was pulled. Gooseberries in splendid condition were supplied till September. About the last pulling of the fruit, the tenant took occasion to observe how well they had served. "Aye" said the old gardener with a knowing look, "the net has paid itself already." No doubt of it, if your fruit is not

worth the netting, by all means let the birds have it, it can't be worth growing. It costs very little if care be taken of the nets; if carefully put down so as not to lie on the ground and rot, lifted as soon as possible, and dried thoroughly before being stored, and stored in a dry place, they will last for many years. Every soft billed bird must feed on insects or molluscs the greater part of the year, and man if so willed can easily protect himself from loss during the short period that mischief may be done. It can't be all profit and no loss.

Passing from these we may include the **Missel Thrush** or **Storm Cock**. For the most part of the year this thrush is properly a bird of the park and open fields, yet he draws nearer to our dwellings as nesting time approaches. Ever less trustful than the mavis, he is a most wary bird, and only at the nesting season does he ever willingly allow one to get nearer than from 100 to 200 yards. Larger than the song thrush with the spots on his breast more distinct and decidedly circular in form. He may, however, be easily recognised from that bird by the harsh call note he invariably sounds when alarmed or disturbed. He is the largest of our true song birds, and sends forth his loud wild notes in the earliest months of the year, long before the other thrushes attempt to pipe. A hardy fellow and brave as ever was knight of old, in the defence of his castle. Though much less numerous than the song thrush still you have the opportunity of observing this fine bird almost at your own door. He never builds in a shrub or a bush, always a tree and, a pair invariably nest on the trees in the Back Walk, opposite the Smith Institute. From the time the eggs are hatched till the young are able to leave the nest, you will any day see a battle royal between the jackdaws and the storm cock. The rooks also have a look in of a morning, but the jackdaw is the most persistent marauder, and for a short time the poor bird is harassed at intervals during the whole day. The hottest fight is at early morning, about 5 o'clock, and generally over before 6. Sometimes it is short and sharp at other times protracted and determined. But I am glad to say the missel thrushes have never as yet failed to bring down their brood to the Institute grounds for a short time after getting fully on the wing, and though they are very fond of a strawberry when they can get the chance we never fall out over that.

The next thrush I notice is the **Redwing**, a pretty little winter visitor, and often mistaken for a song thrush but easily distinguished at reasonably close

quarters by the bright reddish chestnut colour under its wings, which is quite conspicuous when flying. It also has a light stripe above and extending back from the eye, which the song thrush has not. It is partial to localities, and prefers open fields or meadows and high hedges; however, in severe weather, in particular, it has a cutious way of certainly appearing in favourite places and one of these is our Back Walk. They don't remain there all through the winter but at some time or other if a look out is kept, you are sure to see this welcome little visitor. Song thrush-like in all its movements but by no means shy. Mr Bruce, Victoria Square, was good enough to give you a very interesting detailed account of this bird some years ago, and I am in the happy position of dismissing the redwing and referring you to your copies of the Society's Transactions. Two other thrushes remain, one the fieldfare, a bird of the fields; the other the ring ousel, a bird of the uplands.

Still continuing in the garden or the shrubbery we cannot miss the **Hedge Sparrow.** It seems to be getting more fashionable to call this bird the hedge accentor. Hedge sparrow, he was to me as a boy, and I like the name too well to part with it. A pretty creature, his plaintive peep peep or sweet little song reviving the most pleasant of memories every time we see or hear the bird. But the hedge sparrow is well known to you all, and I don't suppose I can add anything that would be new to you. I therefore leave him and take a passing glance at another well-known frequenter of gardens and doorsteps, the robin. If one wished to raise a storm he could hardly hit a better idea than begin to blackguard the robin. Of his utility there can be but one opinion—the pests of our garden are his daily food and the obnoxious wire worm is to him the daintiest of morsels. Though a much respected gentleman, he possesses an almost insatiable appetite, and to a Frenchman who deals in such small ware he must be tempting, as, given a fair chance, you will never find a lean robin. Hence when biting Boreas pinches, poor robin is driven to the window sill at once. As you know, he is a pugnacious rascal and selfish to a fault. Confiding as he undoubtedly is, protected as he well deserves, and allowed, without grudging, his little pittance when want assails him; there are many birds that I respect far more highly than the robin. As with the hedge sparrow, you all know as much about the robin as I do, thererefore, I pass on to another garden bird known to some, yet,

though common, possibly not known to all, the flycatcher. One of our migrants arriving late in May, like all the late migrants, it proceeds without delay with family arrangements, and leaves as soon again as it possibly can. To an unexperienced eye, as I am assuming, for the present, yours to be, it is difficult to give a practical distinctive mark to this little migrant—sparrows all, they may be, to many —and to give a book definition is a waste of time. A synonym of this bird best describes it, viz. the post bird. It's a short legged little bird, not unlike a female sparrow, and of rather solitary habits. It takes up a position in an exposed place, the top of a post, on a wooden rail, an iron fence, or a bare bough. There it sits, and ever and anon seems to hop a yard or two upwards or outwards as it catches the flies, returning to the identical spot again on the post or fence. So regular is the bird's movements you can hardly mistake it, and when first you do observe it, I am sure it will interest you. A characteristic of the bird is the regularity with which it returns to the same nesting place. If in an old tree, it will occupy the same site year after year, if on a shelf in an outhouse, it sometimes varies the proceeding by building another nest close to the old one. I have had this bird also nesting in the Institute grounds, and every evening, from a post in the garden, he would be seen nipping up the flies, but, alas, like all my particular feathered favourites, that curse of all bird life in a town, the domestic cat had to put an untimely end to my flycatchers, and another pair have not taken up their place.

The next garden bird I would mention is the **Redstart**. Like the flycatcher, this bird is a late migrant, and generally builds in a hole in a wall. His movements are jerky, much resembling a robin, and you come across him very often popping up and down off the top of a wall on a roadside, or a clump of old wood, especially if surrounded with an old wall or sub-fence. Like all our little summer migrants, he is a soft billed insectivorous bird, and well worth encouraging. Though not plentiful, the bird is generally and widely distributed, and not at all uncommon in the district. Last summer, while walking from Callander, to show my father the Trossachs and the Silver Strand, I was much pleased to find this bird in unusual numbers along the road. Had I driven by the orthodox coach I would not have seen a single bird. The vulgar name of Firetail Bob gives a pretty good definition of its most destinctive character. When on the wing, the fiery chestnut rump of this bird is very conspicuous, and

that combined with the jerky robin characteristic should guide you pretty well in indentification. Last year a pair of these handsome birds, to my great delight, took up their quarters in a hole in my garden wall, and as the bird returns again and again to a nesting place, I was particularly interested. The male was the finest specimen I ever saw, a perfect beauty. Nest building went on apace, two blue eggs were laid, and then I missed the cock bird. Closer inspection disclosed the nest disturbed, one egg chipped, and two or three tell tale feathers near the hole, too evidently again the demon marauder had done her work. The female bird lingered about for a few days, and my dream of a welcome annual visitor vanished, probably never again to return.

Another bird that we may notice as a near neighbour, though equally common in other of our walks, is the **Wren**. One of the sprightliest of birds and a universal favourite. The bird and its nest are as well known as the robin or sparrow, but though common I am not aware that in any locality it can be said to be plentiful. It would occupy the members here a whole night to describe the various positions and places in which they had each found a wren's nest, and in the end the difficulty, unlike the majority of birds, would be to describe a place where a wren's nest may not have been found. Three years ago I had a pair who built their beautiful domed nest among my rasps in the space between the canes and the supporting stake. The nest was built, the eggs laid, incubation went on and—suddenly stopped—again the usual result, thanks to the unwearying attention of that much idolised quadruped already mentioned. The wren has never nested with me since. A delightful little songster, especially in late autumn and winter, often have I stopped for a minute in the Back Walk and admired the little mite as he perched or rather hopped on to the top of a boulder and poured out his full song, most wonderfully loud and clear for so tiny a creature. For the benefit of those who have not given bird life much attention, I will refer very shortly to one characteristic not unknown among other birds, but particularly applicable to the wren, namely, that when looking for these birds nest, and especially in woods, you are certain to discover quite a lot of wrens nests built out but not finished, and never containing eggs. These nests are more readily found than the hatching nest. A good deal of theorising has gone on regarding the cock nests as they are termed, and

M'Gillivray, that prince of field ornithologists, gives us a great deal of facts tending to show that if not primarily built for the purpose they are at least used by the birds in winter as places of shelter. The writer also gives us a great amount of interesting detail to show the assiduity with which the old birds tend their young. If interested read it there at your leisure.

Another bird that the garden and shrubbery may claim is the **Greenfinch**. In early nest-hunting days we knew it as the green lintie. In early spring, from the top of a tall larch it pours out a continuous but rather monotonous song, and having given it credit for this I don't know there is very much to add in favour of the greenfinch. Stout in build, the cock bird is rather handsome in his gay yellow and green colours, but I doubt if we care much for his visits in spring and early summer. If not thoroughly protected woe betide your young turnips, radish, and other seeds. In a very short space, instead of the pleasing regular briard you admired a short time ago, not a vestige is left, only a long line of the white seedling shoots lie marking the place. A tall unpruned thorn hedge is a favourite nesting place, but if their are a number of the birds about, the nest will likely be found, not too carefully placed, in an adjoining laurel bush. The greenfinch is a bird that I don't care about having much of his company.

Another finch that we are sure to meet in the shrubbery or nesting in the apple trees in orchard or garden is the **Chaffinch**—the shelfie of our early days. He is perhaps a little mischievous, and apt in certain localities to get rather numerous, but the male is such a handsome bird and the subject of so many pleasant associations we must forgive him much. When in full song on a fine spring day and decked in that most gorgeous of nuptial dresses it would require a pretty hardened sinner to do harm to the shelfie. You know all about that nest of nests that the bird builds. The bird and its nest are as well known to you as the sparrow, and perhaps, as I hope, more respected.

Another finch that occasionally nests in the shrubbery surrounding country mansions is the **Bullfinch**. This bird, however, is more regularly met with on the moor or in the young larch and pine woods. Not an uncommon bird in this locality, its chief point for commendation is perhaps the pretty plumage of the male. Here, however, I would say that birdnesting as a means, or for the purpose of getting together a cabinet of egg shells, is one of

the most useless and silly things any sane person can be guilty of, but finding a bird's nest, or a series of nests, as part of bird study, is quite another thing; one of the most delightful and commendable ways of adding to your knowledge of bird life. In this connection I give you the hint that if this way inclined, and having made up your mind to see a bullfinch's nest for yourself and by your own searching, you are likely to have learned a good deal about the bird from the time you begin the search until you do find its nest. Having found it, then leave it alone, and by all means induce others to do likewise.

With the exception of the tits, two of which in particular, the blue and the cole tit, could very well be here included, we have got through our house and garden birds. The tits, however, are quite as much if not more properly birds of the woods, and I will take them up there.

We now proceed with our

WALK IN THE FIELDS, IN THE PARKS, AND BY THE ROADSIDE,

and perhaps the best type of this class of bird I can select is the **Yellow Bunting** or **Yellow Hammer**, and perhaps equally well recognised as the Yellow Yite. Like the wren, widely distributed, but never numerous, every one of you knows some bit of roadside where you can, without fail, find a pair of yellow hammers, but they never seem to increase. A hard billed grain feeding bird I have never heard any one grudge him his meal. He is undoubtedly handsome, and this, combined with the fact that he never appears in flocks, allows him to pass unnoticed. Very different, however, is his fate when the nest prowler wakes into life. An early builder, when banks are comparatively bare, the nest is one of the stock prizes of these young ruffians, and the yellow hammer pays a heavy toll. If you remonstrated with the young savage, I fancy the defence would be "it's jist a yites." When hunger pinches, the yellow hammer may be found about the stackyards, but the roadside is permanently his home.

Another bunting may also be met with in this walk, the Common or **Corn Bunting**. This is an interesting fellow. The only reason I can assume for the name "common" is that it is fairly well distributed, but instead of being common, the truth is, that the bird requires a little looking for. You are pretty sure to come across him in his selected resorts, but you have first to know something of him, and then try and find him out. To my idea this bunting is the repre-

sentative of the listless lazy loafer of our own species. In appearance he very much resembles a skylark, only a little stouter built; sitting on a fence or wall he would readily be mistaken for that bird. If his dreamy long drawn notes can be called song, then he is a persistent singer, because, as often as not, your attention will be drawn to him by this dreamy, dawdling, drawling note, and further, when you hear it you have little chance of confounding the bird with a lark in all time coming. When surprised it can pack off smart enough, but on ordinary occasions, after drawling away on the top of a rail and he thinks of a change of position, away he goes in the most lazy manner, his feet hanging down as if it were too much trouble to tuck them under him, You can mark him down at once by this characteristic. In open cultivated fields, interspersed with grass or meadow land, is the resort of this bird.

Another bird to be met with on this ramble is one that a number present, I daresay, do not know, and possibly a greater number have not seen. Yet on the Gargunnock Road, for instance, he may be found on any fine summer evening reeling off his enchanting song in a continuous flood—if you don't intrude—but the slightest noise and he is one of the children of the mist in an instant. This is the **Grasshopper Warbler.** I don't know how it may be with you, but, for my part, I had made the acquaintance of a considerable number of our feathered friends ere I had made much of this one. Its song is not at all unlike the pleasing chirr of the grasshopper, only stronger, and though you approach a whin bush on a moorland or a thick hedge on the roadside while the bird is in song, very likely you will give a grasshopper the credit, and never think of a bird. But there he is, and you have a very fair bird eye if you see the little brown rogue. He drops like a shadow out of sight, and disappears in the undercover. In my observation of this bird, I have seen scores of them, only once have I seen its nest, and for that pleasure luck had more to do with the find than credit. If you happen to find the nest there is no occasion, so far as I know, that you should take the eggs. They are fragile mites, and of a peculiar rosy tint, very difficult to describe, but distinct in this respect from any eggs similar in size. Patience can do much in most things, and I have had the pleasure of stalking most carefully close in to a bush where the "reeler," as it is called, was reeling away, and listened as long as I cared to the little minstrel, but if you are not as

wary as a cat in getting to the goal, your chance is small. As I have said, the bird is regularly to be found in this district. The place, however, where I studied the habits of this bird, was on the border of a piece of moor, near Helensburgh, forming part of Blackhill Shooting, on the Luss Estates, and long tenanted by Mr Lumsden of Arden, who has on more than one occasion interested you with papers on ornithology. There the bird was, and very likely still is, numerous, and there I found its nest.

Another common warbler, and like all warblers, a summer visitor, is the **Whitethroat**. You have only to walk round the undergrowth on the steep banks of the King's Park to find this bird, or in any of the tangled lanes or covers. It is a pretty demonstrative bird, and if you seem to encroach too closely on his, to him, private domain, you are certain of a very good imitation of a proper scolding. Perhaps you know him already as the nettle creeper; he builds his frail looking nest of grass stems and conceals it among the thick undergrowth of rank nettles or other weeds, and has the knack of all warblers of worming or creeping mouselike through the tangle when so inclined.

Another warbler that you will find along the hedgerows, is the **Willow Warbler** or **Willow Wren**. This is a bird very generally distributed and common in all districts. Sometimes you find it in the long grass near the house, but it prefers more open ground in general, a sloping bank, near a tall hedge, in an open wooded glade, and so on, you find the beautiful domed nest of this interesting and pretty warbler. In boyhood days we called it the "whity or wheety why bird" or "muff," and I am glad to say that a muff's nest was generally respected. The departure of the willow wren is to me a most interesting event. With a regularity that could hardly fail to awaken the interest of any one, they suddenly appear in great numbers in my garden at the end of September. Some of the birds are feeding and passing on, others are not quite so much in a hurry. During two, or perhaps three days, the birds continue present in marked numbers, then disappear entirely, and no more is seen of them till the following spring. The birds are all in perfect plumage, recovered from the moult and ready, in fact, for proceeding on their journey.

Leaving the warblers, for a time, we will finish our ramble in field and lane with a look at some of the larger birds, and to those of you of a sporting tendency, I think the **Partridge** will first occur to

you. Volumes have been written on this bird, from a sporting point of view, and it deserves it, but to mention the bird is sufficient for present purposes. You all know it, and perhaps it is better that you should in this instance learn, by personal observation, when and where to find the bird at various times of the day, and under various conditions, because that is learning about bird life, and to induce some to take a practical interest in birds in general and the local birds in particular, is really the purpose of my notes. I accordingly leave him entirely to yourselves.

The next field bird that occurs to me is the **Corncraik**, a migratory bird as you all know, although in Gilbert White's time, it was supposed to go into a dormant state during the winter, like old Gilbert's tortoise. Now, although everyone without exception, who has had a slight opportunity of living near the cornfields, even for only one season in their life, has recognised the craik of this interesting creature. I would be much interested, assuming, for instance, we had all the people in Stirling assembled together in one meeting, to ask, hands up for those who had *seen* a corncraik. The percentage would not be very heavy. Nevertheless, in early spring, when the birds have newly arrived, and before vegetation is luxurious, it is not so difficult to see the bird, aye, and catch him too if wished. Sharp eyes and a stealthy tread are necessary to success. A corncraik's wing feather makes a favourite trouting fly. Always an enthusiastic angler, I had acquired when a boy considerable deftness in fly dressing, and a great longing for this particular form of lure, the more so that like Eve's apple I could not very well get it. One fine spring day I had been deceiving the fine yellow trout with some success, and while sitting on a bank enjoying my "piece," a craik began to call near me. The temptation to at least see the bird got too strong. Laying down everything I cautiously approached, and my eyes being much sharper then than now, I spied the fellow skulking like a brown rat among the sprouting sedges and docks. Keeping my eye on him I kept following at a respectable distance till my quarry got as he supposed safe under a half developed dock leaf. Red Indian like, I sneaked up on all-fours, and it was all over with the landrail. Afterwards I could get a landrail's wing when I wanted, thanks to no one. That's one way of doing it; another is to have them pointed by a setter dog and flushing them like a partridge, only the bird is more difficult to flush, and it's not too good practice for the dogs. Another way in spring if you hear the

birds in or near a narrow strip of wood—a belt of wood as expressed in Scotland—place yourself at one end of the "belt," send a friend round so as to get quite beyond the birds, and if he then come towards you along the bit of wood you will be pretty certain to see the landrails, sure to be a pair, skulking out at the end near you a good bit in advance of your friend. Luck some day will send one across the road in front of you, and if there is nothing else to disturb him, and you stand stock still to watch, you may be rewarded by seeing him stop short and favour you with a good round of craiking, and then depart at his leisure or trot off in his peculiar skulking style. His gait and appearance generally is quite of the water hen type, and the eggs have a remarkable resemblance to that birds, only a little less, but any book on birds will tell you all about that when you want to look for it. (I am not quite sure that they will tell you how to catch one.)

Another bird of the fields that is found occasionally on our carse fields, not so far as I know common, though I have locally procured specimens, is the **Yellow Wagtail** (*Motacilla Raii.*) I am particular with this name, because you are very likely to confound it with another yellow wagtail not at all uncommon in Scotland, by our burns and streams especially, and which we will also notice presently, being *Motacilla sulphurea* or grey wagtail. The yellow wagtail is decidedly a bird of the fields, and is met with on the plough land in preference to riversides, though both *sulphurea* and *Raii* are met with on meadow or pasture land in search of their insect food, and a pretty sight it is to watch these tiny and agile creatures darting out and in about the legs of the cattle browsing in the meadows, benefiting themselves and obliging the cattle at the same time. The nesting places of the birds, I believe, are different also, *raii* nesting in the open, while *sulphurea* sticks to the sides of the stream. Having both birds in the Institute collection, as I have said, you will be able to take in more practical definitions of distinction at one glance than I can put before you in a quarter of an hour.

Another summer visitor to our fields, and especially to the avenues leading to our mansion houses, is the **Tree Pipit**. Arriving about the end of April, you need have little difficulty in making out this bird—not necessarily by a 50-line description of length, breadth, and colour of every feather in its plumage, and only after all more or less correct—but by watching the bird's daily flight. On arrival, and all through nesting time, the male invariably

perches on a tree and on a dead branch for choice, and from thence it frequently launches forth upwards, singing as it goes, and returning to the stump. His movements are sure to attract your notice if you don't know him already. The nest is always on the ground, and the eggs very variable in colour. The female sits very closely, and if so minded, you should have little trouble in catching her on her nest. I have done so several times, but don't do it oftener than is really necessary. I hadn't the advantage of a collection at my elbow when I did it. Nesting over, the Tree Pipit betakes itself to the fields until it departs for the season.

Another bird that falls to be included in our list of the birds of the fields is the **Sand Grouse**. An excellent example of the class casual visitors, and I am afraid not likely to get out of that class. At long irregular intervals immense flocks of these birds leave their natural habitat in the great deserts and steppes of Central Asia and spread out over Europe, reaching our own shores and the surrounding islands. The first immigration recorded by Yarrell is 1859; in 1863 an immense flight of the birds appeared, and later the great migration of 1888. The interest in ornithology was not so general in 1863 as now, no effort was made towards protecting the birds, and they were soon destroyed. On the arrival of the bird in 1888 efforts were made towards its protection and possible acclimitisation; but however desirable and praiseworthy, these efforts I fear are not likely to be rewarded by success. The natural habitat of the bird is an immense wild waste of dry sandy desert, adapted for which nature has provided it with short legs and the foot of a camel, the toes being firmly united up to the last joint, but very far from suitable for living in our wet heavy soils and stiff holding clays. In Norfolk and some of our drier English counties the bird was thought to have a small chance, but I am not aware there is any hope of its being able to establish its claim to a British bird.

The specimens in the museum collection were shot near Menstrie out of a flock of the first arrivals in 1888, and were secured for the collection through the effort of the Rev. J. Coupar, Menstrie, and Messrs Michie & Crockhart, gunsmiths, King Street.

And now, I think, the remainder of our birds can be more appropriately assigned to other walks, with the exception of one, and not yet having taken it up it will be readily guessed, viz., the **Sky Lark**.

To write any detailed history of this bird or its haunts would in this paper be superfluous indeed, and I don't know anything new that I could tell you that would be likely to increase your interest in its every-day life. There is one thing connected with the lark that I wish, not only such societies as this, but every one without exception, could be induced to be interested in, and that is the wholesale destruction of the bird that year by year goes on without the slightest protest, or attempt to stop. I am not going to say one word against these miserable bird nesters and snarers; I look upon them as entirely creatures of circumstances. With them it's a strong case indeed of no resetter, no thief. It's among the classes that form the members of such societies as our own, and people higher in the social scale, at whose door, I regret extremely, I feel I must lay the whole blame. In defence we would hear something of the trade in live larks in the bird market, which in large cities is a rendezvous of the scum of the slums. But the numbers disposed of there is a mere drop in the bucket to the thousands of these poor birds that weekly appear on the stalls of the poultry and game dealers, and satisfy the demand for supplying the table of the upper ten with the supposed delicacy of lark pie. When we are reduced to look to the poor lark to supply our tables, surely we are in a parlous plight. I should think that any human being—he may call himself a gentleman if he will—who, at the first attempt to pass his knife through such a morsel, would not lay it down with a feeling of the most intense shame, is more entitled to take his place among barbarians than a company of civilised men. We cannot look on such a taste as other than brutish and deserving of the most severe disapproval. If the wanton destruction of birds for supplying the demands of fashion and the milliner, is very properly condemned, much more indeed is this wretched butchery of our finest song birds, simply to pander to the whim of fashion or the more loathsome desire of the glutton. Ladies and gentlemen, can you imagine a man or a woman toying at the dinner table with the breast of this poor little innocent bird, and the same man or woman in the glory of a summer day, thanking the Creator of all things for the delightful song and finer feeling it should give rise to as he or she listened to the warbling of this most delightful of songsters. If so, then I would say it was a piece of the vilest blasphemy that any person could well imagine.

What is the use of attempting to preserve the birds in the nesting season if the result is simply to pander to a degraded taste in those that should be the leaders of all that tends to purify and raise the tone of our public life. In the best interests of our national character this question of indiscriminate slaughter of small birds for festive fancy, they are not at all fitted for table use, is worthy of the best and most serious attention of our legislature. May it soon have it to some purpose is my earnest wish.

And now having got a glimpse, at least, of the birds you can certainly find in the fields or lanes round your venerable old town, let us suppose we are permitted to stroll through the

WOODS,

and if you take the canny way, I don't think you will find the neighbouring landlords such an inexorable lot of tyrants as it seems the fashion to try to educate the people to suppose. Our woods, thanks to our instinctive sporting character, provides a home for not a few of our game birds, and the birds being well known, I do not propose to deal with them at any length. First on the list comes the Pheasant. Much of interest might be said as to its introduction, and the various varieties, that from time to time have been introduced, its haunts and habits, the present artificial rearing and battue shooting compared with the systems of the past and so on; but, lengthened remarks in a sporting vein is not my purpose. You all know the bird and should be able to discover it in a reasonable time in any of our neighbouring coverts, and having got a start I leave you to follow up your observations.

The next bird that occurs to me is the noble **Capercailzie**, a magnificent bird, that at present finds a home, altogether to his liking, in the extensive pine woods of the adjacent estates of Polmaise, Sauchie, and Touch. Handsome though he may be, and worthy of limited preservation, I cannot look on the Caper as anything but an ornamental bird. He is destructive both to the pine woods, the juicy shoots of which are his chief fare, and to other game, particularly pheasants, which clear out rather than have the company of such a formidable and pugnacious neighbour. As a table bird he is not commendable. To study him in his haunts is by no means easy work. It will require great patience and caution, as he is a most wary bird, but that will, in time, only tend to give zest to your

efforts to master his life history by personal observation. Mr Harvey Brown has written a very interesting volume on the early records of this bird, its total disappearance, reintroduction and present distribution, and as it forms part of the Society's library, it is at your command. Pretty fair specimens of the adult birds, with the chicks in the down, are at your service in the Museum cases.

Another bird of the woods, and also a game bird, is the **Woodcock.** I should not wonder though you are better acquainted with this bird on the dinner table than otherwise. I hope your personal acquaintance with him will take a wider range ere long. His plumage, though not at all brilliant, is nevertheless harmonious and pleasing, a very pretty subject for an artist as a still life study of browns. Though a bird of the coverts it may quite as successfully be sought for in the tangled natural growth of the hillside or scrubby moorland. A night-feeder he passes the day in dreary solitude in his retired retreat, and the birds, even where comparatively plentiful, are invariably found as scattered birds. A migratory bird, it arrives in flocks in the autumn, but they break up so soon as they arrive, dropping in here, there, and all over. Of late years especially, it has nested in Scotland in considerable numbers; and in our own district, Sauchie estate is a favourite nesting ground for this bird. Towards evening it wakes up, and betakes itself to marshy patches, boggy springs, and old pastures. On a clear frosty night he may be seen prodding about the green spongy bog, at a spring on a mountain side, or in mild, open weather dibbling away most industriously among the old cow droppings in the parks, searching for the small worms that are his staple fare. On these occasions he is an amusing and most interesting study. I am afraid the present day battue or big shoot has driven a good deal of knowledge of the life history of our birds out of present day sportsmen, but an old hand could very soon, independently of the keepers, tell from the appearance of his grass parks whether the flight of the wood-cock had set in. It makes a mere apology of a nest, and its egg is one of the ambitious aspirations of the budding egg hunter.

Exhausting the game list for the time, perhaps the next bird to attract attention is the **Wood Pigeon** or **Cushat.** Though found at all hours of the day in the fields, the wood is without doubt the cushat's home, it is there he rests, sleeps, and nests. To all of us, I am sure,

the cooing of this dove must awaken delightful remembrances, and if the farmer, not unreasonably, complains of damage to his crops, we still have sympathy with the bird. I don't put forward the same plea for the wood pigeon that I did for the lark. This bird is quite a useful table bird, and quite worthy of, and worth the attentions of the sportsman; in short, any one (except a vegetarian perhaps) can understand a pigeon being killed and used as food, but it will require a good deal of argument to convince most people that the same applied to the lark. You know as well as I do, that the wood pigeon is with us all the year round, but in autumn and winter we also have large flocks of migrants that suddenly appear in great numbers, and as quickly disappear, their food supply probably accounting for their uncertain movements.

But we can't stop longer with the cushat, and meantime pass on to take up some other tribe of wood dwellers, and we will select the **Crow** tribe, taking the well-known **Rook** as the first specimen. Though very noisy birds at their breeding quarters, it speaks volumes for the interesting traits in their natural history, that few persons having a rookery adjoining their mansion care to disturb these birds, and it affords the owner of these nurseries much pleasure to watch their habits. Of the rook's utility there is not much difference of opinion, and the subject has been well thrashed out. The rook's notes have received little attention, but he has a very considerable variety. Most people fancy him only fit to utter caw, caw, and be done with it. That is not so, and you will find pleasure, I am sure, in finding them out. In summer, he is a serious bird, very much occupied with domestic affairs, but he will amuse you in autumn if you pay attention, and in early spring when in amorous mood his modulations of voice are very entertaining, very much more so than you give a "black crow" credit for. I have had something to say of prominent characters of some birds, and had almost passed over the rook, as a bird that you could not mistake. But suppose a rook, a crow, and a raven were separately shown to you, so that you had not the benefit of comparison, would you be able to say which was which? Like Cromwell, an old rook has a warty face, no mistaking him, his bill also is more awl shaped than his brethren; but bear in mind his warty face is not acquired till he is a year old bird; a young rook is feathered from the base of the bill, and there is little to guide an amateur to decide between a young rook and a

young hoodie or crow proper; if young birds, therefore keep your eyes on their bills. When next you pass the specimens in the cases, you may find it worth while to give them a little more careful examination. It may be they are just crows, but crows can be, and are interesting.

The next bird of this tribe characteristic of the woods is the **Black** or **Carrion Crow** *(Corvus corone)*, but along with it I feel I must couple its twin brother of the mountain, known as the **Hoodie** or **Grey Crow** *(Corvus cornix)*. These are puzzling and most interesting birds, specimens of both are at your service in the collection, though generally passed over as of little interest. To a casual observer the birds appear very decided and distinct species. The black plumaged bird is a bird of the woods naturally and distinctly arboreal in its nesting habits. Even though not nesting in woods as in pastoral districts in Scotland it always selects a tree. The grey crow, on the other hand, the bird with the grey mantle and grey under plúmage is a bird of the mountains, nesting on the rocks like the raven. The black crow is the English bird, and extends into Scotland, the grey crow is the bird of the north of Scotland. Like, as in plants these are the types, but what happens when the dividing line is approached in the midlands of Scotland? Well, so far as the distinction of species goes, the whole thing goes to the wind, and the wildest disorder takes place. Yarrell puts it forcibly and fairly; he says (Vol. ii. p. 275), "we find that in the districts in which both occur they breed together commonly and indiscriminately, that the offspring sometimes combine the characters of both parents, and sometimes favour one or other of them, or that in the same brood all three phases appear," or again, "that the progeny of parents belonging to one form may present all the characteristics of the other." These facts have to be combated if the species are held distinct, and it seems rather a stiff job to tackle. Both forms are met with in our county. I am not aware of any claim they have to usefulness, preferring carrion if it is to be had. They are not slow to accommodate themselves to circumstances, and during the hatching season do immense mischief to eggs and broods of young birds. Here I think we have a strong plea for the benefits our present Game Laws confer on us in extending our fauna and multiplying enormously the number of our useful migrating birds. This is neither the time nor place to discuss the hares and rabbit question, that's happily settled;

but as to winged game in the past I must say I have hardly ever heard a complaint from a respectable farmer. To preserve these game birds in sufficient numbers for sport, keepers must be employed to keep down all rapacious creatures generally classed by them as vermin. Fortunately these game birds are the most tempting quarry for the bigger classes of vermin, and, generally speaking, these rapacious birds are kept fairly well in hand, the bulk of our small birds are left in comparative peace, and they go on increasing and adding a new comer now and again, accordingly. Remove the Game Laws, the keeper, and the game disappear, but not so the hoodie and his brethren of destruction. They go on increasing, and have a glorious time for a little. The game larder, however, soon gets sadly reduced, and having to live the marauders must turn their attention to smaller game; the swoop of the falcon may again be seen, the flash of the sparrow hawk, a matter of daily occurrence, and perhaps the Hoodie is the subject of some interest, jumping along a hedgerow in an excited and funny manner, aye, funny-like to you, but not to the young thrushes he is gobbling up for dinner. Allow these quick-eyed and powerful-winged fellows to have sway for a bit, and farewell to the abundance of pretty, useful, and harmless little birds that at present make our country rambles an endless source of delight. When we hear and read a lot of the silly twaddle about the loss of our hawks and all the rest of it, Burns' verses in "Tam o' Shanter," seem to convey an excellent commentary, "think ye may buy the joys o'er dear." To my idea the full song of the warblers of the woods and groves is more pleasing, and the birds themselves useful, than the questionable benefit of an increase of these birds of swift wing and merciless talon. Nature, as nature, no doubt requires this assistance to preserve the balance, but civilised man, of necessity, upsets these laws, and that plea no longer suffices. It's the fashion to say very hard things, indeed, of these keepers, and when we consider that for the most part the men have not received a very liberal education, we don't wonder that we meet individuals that do not impress us very favourably or treat us very civilly. I don't think that is the rule, and opportunity of closer acquaintance often discloses a man of sharp and careful observation, not at all communicative, and rather suspicious, it may be, for a time, but once you have gained his confidence, you find him kind-hearted and obliging, willing to do an

immense amount of very hard work in helping you, as far as his duties permit, to solve your interesting little problems. We, at all events, as members of this Society, should find it more congenial to try rather to elevate the tone of these men, than isolate and debase them by cold and often unfair criticisms.

But to return to our Crows, as yet another remains to be noticed, the **Jackdaw.** This bird, so far as nesting is concerned, prefers rough craggy faces of rock, such as our own Castle Rock and Abbey Craig, but is quite satisfied with a hole in an aged tree in park or wood. Like the sparrow among the smaller birds, the jackdaw is not slow to assert itself, and in one case is chiefly responsible, I fear, for the all but complete annihilation of one of its own kind, the Chough. It is not at all so useful a bird as the industrious rook, and increase of its numbers by special protection is not called for. The jackdaw is fit to look after himself.

Leaving the Crows we will now look after the **Pies,** and the first of them likely to be met with in this ramble is the **Magpie.** It is quite as much or more so a bird of the fields. This is a bird that at present bids fair to disappear from our fauna. Having a decided taste for eggs, and in their season not despising a delicate chick, this bird is persecuted by the game-preserver, and that very effectively. Twenty or thirty years ago the Magpie was quite a conspicuous bird in the Carse of Stirling and over Scotland generally. Now you may be in the Carse daily from January to December and not see a single specimen. It still finds a haven in the small holdings of petty lairds, whose game interests are not sufficient to cause them to trouble about the "piets." These havens are few, and the magpies fewer. Of course grey hairs are now upon us whether we acknowledge it or not, but it seems but of yesterday that we were accustomed to see the magpie daily, and several in one field. Being such a quaint-looking and conspicuous object it is not surprising it commanded a good deal of attention, and was associated with a good deal of the folklore and superstition of the early part of the century. Perhaps the familiar rhyme, "ane's joy, twa's grief, three's a marriage, and four's death," occurs now to some of you as a bit of folklore in connection with the appearance of the magpies in one field at one time. At the present time, if marriages and deaths were regulated by these omens, the changes in life would be few indeed. So scarce has the magpie become that it will require much trouble for you now to acquire a fair knowledge of it by personal observation in

this district. Always an object of interest, I fain would hope to see a few pairs spared.

The remaining pie—the **Jay**—is, if possible, even scarcer in the district than the magpie. A most wary bird, and most suspicious, one would suppose that the Jay would be able to hold its own with some measure of success, but it is not so. In the nesting season it is one of the most silent and cautious of birds, but at other seasons it is most injudicious in proclaiming its presence by its piercing and discordant notes. Unless in extensively wooded districts it cannot remain long undiscovered, and his haunt being noted, his destruction is but a question of time. A few pairs are still met with at intervals, for the most part birds that have come in from other districts. There are still a few habitats of this bird, from one or other of which no doubt our sporadic supplies are drawn, but they are few. At present the jay's share of mischief does not account for much deficiency in the game return. The identification of the jay is easy. To find the birds, as I have indicated, is now more difficult, but to any who have not seen or known them a look at the specimens in the collection will remove any future doubt.

The **Owls** are the next class of birds of the wood to which we may give a passing notice. Nocturnal in their habits, these birds are oftener heard than seen; still you can delight your eye on the bird flitting noiselessly over the corn fields on a fine summer gloaming, or, what is equally interesting, watch its ghost-like movements as it flits over and about your path in the stillness of night, with the glistening frozen snow underfoot and a full clear moon overhead. Bird life at night has many charms, and the latter acquaintance with this uncanny bird has most fascinating attractions. I don't wonder though you have a slight touch of eeriness and visions of mortals from an unknown world suggest themselves as the bird, with noiseless pinion, drops on a bough a few yards off and looks at you as an owl only can do. Advance, and he remains till you are quite near, and then, like a shadow, he disappears only to appear again in the clear light of the moon some yards off. This interesting game of bo-peep I have kept up in a midnight winter ramble till one or other got tired, and we parted to meet no more. The outs and ins of owl life is in itself sufficient for a volume. I just try to tempt you to go and look for yourselves. We have three owls that are with us all the year round—the barn, the

brown, and the long-eared; another, the short-eared owl, is not resident, but a regular visitor, and therefore a good British species. Now as to their identification. The **Barn Owl** is the white owl, the under parts pure white, back wings and upper plumage golden brown, a beautiful creature, and, like the magpie, easily known when seen. At one time it was a common bird, now it is far from common. In the gloomy shade of an old wood, tree, or rock face covered with ivy is a favourite haunt. This is the bird that in schoolboy days we read about as sitting in the barn and seeing the mice creeping in the corn. These must have been glorious days for the owl compared to the present. The farmers then must have been more alive to the benefits conferred on them by this feathered friend. A pair of barn owls would do more genuine mouse hunting than half-a-dozen cats. Mice, nothing but mice, varied with an occasional mole, is this owl's fare.

The next, the **Brown Owl**, is the hooting owl proper. Not at all uncommon, and known readily by his larger size and big swollen-looking head. Again, for the purpose of indentification, you will learn more in a glance at the specimens than I can teach you in a printed page of description. This bird is not likely to be confounded with the barn owl, and the long-eared and short-eared owls are readily distinguished by their ear tufts, and also by their plumage, which has a softer golden tinge than the brown owl, their breasts are distinctly mottled, and they are of smaller size. The brown and long-eared are decidedly wood owls, and in their haunts and habits have much in common. Both, however, are more predacious in habits than the barn owl, and besides mice and small quadrupeds a good proportion of their diet is made up of small birds and the young of larger birds in summer. These two owls, and particularly the brown owl, come under the vermin list of the game preserver, and more especially of the present fashionable pheasant rearer. This owl, though a night bird, can do a little pot hunting even in a fair amount of daylight when necessity pinches, and such a thing has been known as a brown owl lifting a young pheasant. That would seal the fate of the owls on that and many surrounding estates. Now, I think this is a case where our system of game preserving does harm. One swallow does not make a summer, and one daylight hunting owl does not mean pheasant annihilation. One pair of egg-destroying crows or jackdaws will do more mischief than a score of pairs of owls; the day hunting owl is the exception, the egg and chick destroying crow.

the rule. These owls are naturally night hunters, mice are of course abroad, and they get them; a small bird is picked off a bush; but how about the chicks of larger birds. Grouse, partridges, and pheasants, are all day-feeders, and long ere the owls are out, they have settled down and covered their young. How does the owl succeed? The answer, so far as the owls are concerned, is simply —they don't. It might happen that a late-to-bed owl might pick up an early-to-rise pheasant chick, but it's far indeed from a rule. I have taken some trouble in my time taking notes about the owls roosting, and particularly nesting places, believing that a grain of observation is worth a bushel of talk in such cases. If you take the same trouble, you will also just find what common sense would suggest. The only remains of the young of larger birds I found, and at the nest of the long-eared owl they were pretty abundant, were those of the young of night-feeding birds; young peewits paid a heavy penalty, young curlews and young snipes, but I never found trace of young game birds. The crows and hawks are vermin pure and simple that a game preserver does well in putting down, but he is not at all well advised in destroying the owls. As enemies to game, they are not worth reckoning, and as birds of the greatest use and value to the farmer, the grazier, and the forester, it is the duty, and should be the aim of every landlord to see that the owl gets every possible protection.

The short eared Owl is, as I have said, a regular visitor, paying us a sort of prolonged autumn visit. Other owls are hid away during the day, but this owl is often flushed by the sportsman in a turnip field or the edge of a bit of broken moorland; I have often flushed the bird, but my wanderings now being very restricted, indeed, I had some difficulty in getting my single specimen. The bird is not so rare in districts that suit it, as that it is not noticed, and though seen, not known, as it bears a pretty strong resemblance to the long-eared owl. Like the barn owl, it is essentially a mouse or vole feeder. I have only passed a single specimen through my hands, and I was careful to note the stomach contents, which consisted of four short-tailed field mice or voles, two pretty well decomposed and two entire and recently taken. One can regret the killing of even one of those useful birds, but we may hope it may be the means of saving the life of dozens.

Leaving the owls, we now turn our notice shortly to the **Hawks.** Two of these, the kestril and sparrow hawk will be found in the woodland, for the

rest you will have to go farther afield and to wilder districts. The **Kestril** is fairly well known and appropriately described as the red hawk, the male bird especially, when the full light of the sun brightens his plumage, being a very gay fellow in his rich chestnut coat. The name of windhover very aptly describes his airy evolutions, and nothing more graceful can hardly be imagined, than the gliding and soaring flight of this bird, while quartering a hillside looking for prey. Having taken a wheel and brought himself up to the wind, he appears to literally hang in mid-air, not the faintest appearance of wing motion is visible, presently there is a succession of rapid beatings of the wing, and the bird drops like a stone — hence his name of stone falcon; a beetle most probably has rewarded his efforts, and again he mounts to resume the hunt. Having once seen this bird at work you can never mistake it. Like the owl, this bird is a mouse and insect feeder and ought to be strictly preserved. Generally it is stated on its behalf that it never does damage to game, that is not quite true; but if you put it, hardly ever, you have as near the truth as possible. Next time you happen to be in the Museum you can there see a very young partridge recovered from a kestril that was shot in the act. As there are rogue elephants and rogues generally, so there are, I doubt not, rogue kestrils. Birds will acquire bad habits as well as human beings, but at the same time I am strongly of opinion, that game-destroying kestrils are very few indeed. When these are found, destroy them by all means, but it's surely wanton mischief, and very absurd to destroy a whole family indiscriminately, because of one delinquent. At all events if we apply that principle to the *genus homo*, its a bad outlook for us.

The Kestril is not a bird we expect to see often at our doors, still, on 18th November last I was more than surprised to see a male swoop down among the rasp canes in the Institute garden and carry off a mouse. The visit was a short and swift affair you may guess, but there it was, the kestril had something for dinner, and I was none the poorer certainly.

For the **Sparrow Hawk** I can't say much to his credit. He is quite a different bird to the kestril. A miniature falcon, he flies at his game fiercely and fearlessly, exacting a heavy toll. There is no pretty toying and sailing with this daring bird, he appears like a flash, and is gone, and if an ounce of shot is meant to overtake him you must look sharp.

Among young game birds, when he has his brood to cater for, he does a lot of damage in a very short time, and among the thrushes and smaller songsters he is equally destructive. I would have no hesitation, in the interests of ornithology, to declare war against this bird. As already noted when referring to the crows, we hear a lot about the balance of nature, and there is reason therein; but in a country such as ours, or any civilised and fairly populated country, the conditions under which their fauna are protected, continued and fostered, are to a great extent artificial, and it is to a great degree a fallacy to talk of the balance of nature, where man himself has long ago, and must of necessity continue to upset that balance. And so in this case, if we wish to extend our fauna by the addition of songsters, migrants, insectivorous birds, or whatever it may be, we must reduce their enemies to a minimum if possible, and one of their worst enemies is certainly the sparrow hawk. At the present day I am quite sure the smaller and migrating birds are found with us in greater numbers than formerly, and I decidedly think that to the Game Laws and consequent destruction of game destroying birds, this increase must to a very great extent be attributed. Understand I am not at all concerned with the Game Laws, for or against, as a public or constitutional question, but I think it fair that as a society, and as ornithologists in particular, we should be ready to acknowledge all advantages from whatever quarter they come. I only hope that as the knowledge of ornithology increases the instructions from lairds and shooting tenants to their keepers will ere long be more restricted and sensible as to the list of "vermin" that may (or must) be destroyed.

Having got through the wood-frequenting hawks, we come pretty near the close of the list of birds of this walk, and what remains are small birds. First of these may come **Tits**, and, as with the Owls, we will take them collectively. Four species of these you will find very fairly distributed in this, and all wooded districts—the great, blue, cole, and long tailed. Of the lot, the little **Blue Tit**, or billy biter, as the Yorkshire men call him, is the most familiar to you. He is found everywhere, and I don't need to say one word more about him here. The quantity of insect pests one pair of Blue Tits destroy when feeding their brood is almost incredible. Encourage these useful and beautiful birds by all means. The **Great Tit** should be pretty well known. Approaching in size to the sparrow, he is not so numerous as the blue tit, but a

conspicuous bird, and once recognised, very readily distinguished afterwards by the broad band of black passing down the centre of his breast, flanked on each side by what we may term his yellow waistcoat. In winter his harsh call-note will soon become familiar to your ear, and in spring his loud and rather jarring notes are readily distinguishable from other birds. Perhaps his synonym of the saw-sharpener may help you in spring in discovering the bird. As an aviary bird, give him a wide berth—he will destroy your little favourites in rapid succession, and you will find the brain of his victims quickly and carefully cleared out. We are very much shocked at the behaviour of this quaintly-dressed gentleman, I daresay. Is it any worse, or even quite as bad, as the individual that includes a lark pie in his bill of fare.

The **Cole Tit** you will often find associated with the Blue Tit. It is very easily identified. Its head, as its name implies, is black, or if you are very particular, call it the darkest shade of purple, and a conspicuous patch of white on the side of the head. I daresay it is often overlooked, though quite a common bird of the woodland and shrubbery, but if you take a glance at the museum specimens, you will not require to kill any more for the purpose of identification. Another Tit (the **Marsh Tit**) bears a very close resemblance to the immature Cole Tit, though the difference to a practised eye is very evident. I have never found, nor do I know that the bird has been recorded in this district. You will find a pair of Hampshire specimens in the collection for exhibition. Still it is a bird we may hope to add to our local list, and I mention it in order that some one may be able to note it as local.

Last of the Tits is the **Longtailed Tit**, a bird not numerous, nor, generally speaking, well recognised, yet fairly well distributed. It is a most interesting and delicate-looking little creature, and when at rest on a spray, looks more like a soft feather ball than a bird. The old and young birds remain long in family, and when next you happen to stumble on a family in some glade they are worth a little observation. Unless you are the more obstrusive they will take no notice of you, though within a few yards, but pass steadily on in a straight line. Nothing seems to interrupt them, nor do they appear to stop for a moment. The nest of this bird is a study, and so interesting, I have brought one along to show you it. A prettier thing in bird architecture it is impossible to conceive, and the architects, though without working plan or

specification, make no mistake as to the structure itself, its situation or surroundings. A suitable cleft or a lichen-covered tree is often chosen, and it requires the sharpest of nesting eyes to discover it.

Among the few remaining birds of the wood is the **Tree Creeper,** the tree speeler or climber of our early nesting days. If in a wood the nest is generally found more by accident than otherwise, and very often in such cases is placed behind a piece of bark partly slit off, yet attached to the tree. Curiously enough, though the bird is decidedly arboreal in all its habits, it often selects the gardener's potting shed or such garden outhouse for its nesting place. The bird, however, does not hover near its nesting place or haunt its vicinity, as is generally the case, and thus often escapes detection. The brood is often hatched and away, and no one notices a creeper about. The creeper, unlike the majority of birds, does not, on detection, show alarm by direct flight to a safe distance. It is rather squirrel-like in its movements, and puts a solid barrier, such as the trunk of a tree between itself and its unwelcome visitor, and under this cover it makes a dodging retreat. In woods where the timber is old it is most readily found, but you may walk many days through the woods in vain in search of it. If you exercise patience and quietly sit down or lie down under cover of a bush and interest yourself in bird life generally, as it appears around, the creeper is more likely to come under your observation. A most interesting subject he is. Quite woodpecker like in all his movements as up and round the boles of the old trees he climbs, till he thinks he is far enough, then he flies to the ground, or rather the base of the next tree to search and repeat his climbing operation. A creeper never climbs down a tree or branch.

Another pretty little wood bird is the **Golden Crested Wren** or **Regulus.** Quite a common bird, especially in our pine woods, and very often associated with the tits. A fussy, bustling, tiny, thing, and so small if it chose to be at peace, you never would discover it up among the fir tops, but like the tits it appears during the day to have solved the problem of perpetual motion, and attracts your attention accordingly. You always find it among the top branches of the firs, and moving on. Its nest is a model of neatness, and is always suspended on the underside, and very close to the branch. Though found all the year round with us, the bird as a species is migratory, and it almost surpasses

belief that such a tiny morsel, could live out the exertion of a migratory flight. You can meet with it any day in the pine woods round Stirling.

The last bird of our woods that it occurs to me to mention is the **Cross Bill**. Like the gold crest, this is another bird of the pine woods, but not at all so common. It is possible the bird may be found to nest in Stirlingshire in limited numbers. I know of no instance, but in winter it is found not unfrequently in suitable localities. The birds I have are birds of this year, and were shot by W. M'Nair, keeper on Touch estate, who brought the birds in the flesh. The bird is named from the curious crossed formation of the bill; the mandibles of the bird are also very interesting, but I can leave that for your own research. The bird feeds on the seeds of the pine, and its tongue as well as its bill are peculiarly adapted to its purpose. The point of the tongue is hard and provided with a hollowed-out portion, exactly like a miniature spoon, in which the seed can lie and be drawn into the mouth. I have never come across this bird myself, and you may believe I was exceedingly pleased to add the species to our local list.

And now we are out of the woods once more, pleased, I daresay, to get into the clear sunshine, and ready, I hope, to be off on a long tour by the water side.

BY RIVER, STREAM, AND LOCH.

In my opening sentences I noted the opportunities we possessed for having a numerous and varied bird fauna in a limited area, owing to the variety of the physical features of the district. In this walk this feature is very prominent. With the exception of a bit of sea shore we have all we can wish—a broad estuary, a broad and sluggish river, with the rank vegetation on its banks that certain classes of water birds love so much, more rapid streams with gravel beds and sandy banks that another class prefer, the purling brook with its dancing linns, its wooded banks or meadow land, and then again dividing into the mountain burn, which again loses itself in the bog, or issues from the tarn or loch, each and all populated by their own peculiar families. To each and all of these we will pay a passing visit. Up to this point we have, as nearly as possible, followed the birds in their summer retreats; but for the purposes of this division I propose to deal with the tidal and lower reaches of the Forth in its winter aspect, as you will find more variety of bird-life on it at that season. Leaving it,

therefore, meantime, we will continue our ramble during summer along the rivers, streams, and lochs. Assuming that we start about the junction of the Forth and Allan, perhaps the first water bird to attract your attention is the Water Hen. I think you all must know it; at all events, you can have little difficulty in finding it out. It's a very common bird on all our lochs and rivers. On the lochs you will find another water bird equally if not more common—the **Coot** or **Bald Coot**. These two birds are very easily and readily distinguished. The coot bears on his forehead a shield pure white in colour, quite conspicuous at a considerable distance, by which you can't mistake it. To those of you who have paid the least attention to the fowl on a loch this bird must be well known. We called it the Hawkie in my boyhood in Perthshire.

About the mouth of the Allan and among the reedy banks and islands between that and the Cruive Dykes, and doubtless in other similar spots, another bird is to be met with. Perhaps it is not so very uncommon, and yet, don't be surprised, though you devote many years to field ornithology and fail to catch one short glimpse of the **Water Rail**. Of extremely thin build, it is wonderfully adapted for passing through the narrowest openings among the reeds, and though not web-footed, it dives and swims under water with the greatest ease. It is only as the very last resort that you can flush it, and it takes precious good care that in open weather there is as least one resort more left than the last. In severe weather when streams are completely frozen, a water rail may be come across and put up, but that happens very seldom. Of the three specimens I have, one was recovered from a cat, the second was picked up by a retriever, and the third was struck down by a keeper's whip, the bird having been flushed by his dogs while out airing. The first specimen I ever saw in the flesh was at Callander, which had been shot on the side of the Teith, its possessor being greatly puzzled what to make of it. Rather less, but resembling the land-rail in general build, the plumage bears a good deal of similarity to that of the water hen. The bird itself, however, waits your inspection any day in the Museum.

Another bird that is not uncommon on the Forth, its tributaries, and our lochs, but comparatively little known, and not very often seen is the **Little Grebe**. Like the water rail, the instant your presence is observed by the bird, and they are sharp

to observe, it dips underneath to be seen no more, most probably. You must exercise great patience and much perseverance to observe those birds at close quarters. But patience will do it. Between Drip Bridge and the mouth of the Forth, for instance, I daresay that a pair of these birds are to be found the whole year round, and yet it is just about as sure that anyone here may pass along the bank every day of the year and never see a single grebe. Some day you may have sat quietly under cover of a bush for some hours, and, among other things have noticed, a little funny looking duck-like bird swimming about. Move or make yourself known in any way and you won't see it long. On small lochs, stocked with trout, where a boat is out nearly every day, and the birds are not disturbed, the grebe may more readily be observed. In such circumstances, especially when the broods are recently hatched, it is easy to get so close that one could almost cast a fly on them. The water rail's nest I have never seen, but the Grebe's frequently. It is built entirely of wet water weeds, and the bird covers them with wet weeds every time she leaves the nest. Unless you had some knowledge of the bird and its ways, you would, as a matter of course, pass the nest.

Though not a water bird, yet when on the outlook for those named above, a little warbler, the **Sedge Warbler,** is sure to attract your attention, and if he does not, just pitch a stone into a bed of reeds in passing, and should he be there you will very soon hear him. If disturbed, especially, his notes appear rather as a series of stormings than a song, but what it lacks in quality you have in quantity. At what period the bird rests or sleeps seems a puzzle, it chatters away all day and even through the whole night. I used to prowl a lot about all night in the summer on trouting expeditions and so on, and I never could tell when the bird went to rest. All through the night when near its favourite haunts, if it was not busy, it was ever ready to begin on the slightest provocation.

Continuing our walk along the river bank till we come to a long shelving bank of sand, you may observe a little brown and white bird running about in a sort of peewit fashion, and not inclined to go far away. Like the peewit, it is one of the plover family, the Ringed Plover, and it has, if you take note, a band or ring round the neck—hence its name. The nest, of course, is not far away, on the sand, but most difficult to find from the assimilation of colour

of the eggs with the sand. The eggs are very pretty, and large for the size of the bird, and if you chance to come across them I hope you will leave them alone. In this instance I think the bird will make a better use of them than you are likely to do.

Perhaps on the same bank, or a little higher up the river, we come to a gravel bank, and already your attention has been turned to a handsome black and white bird, with a long orange bill, altogether a conspicuous and handsome bird. If his plumage has not attracted you, you will not be long in view when his shrill call note will cause you to notice him. This is the **Oyster Catcher**. Not many pairs are found with us, but we do have it, and it makes its way upwards from the estuary to its breeding ground, with astonishing regularity. Laid almost, or altogether, on the bare gravel, its eggs also assimilate remarkably with the surrounding stones, and is not by any means readily found. I have found the nest several times, and I hope you will for once take a leaf out of my book and leave the eggs alone after satisfying your curiosity. Such a beautiful bird surely deserves all the protection we can give it. On the seashore, especially in winter, it is a very common bird, but we have nothing to do with it there at present. The gravelly banks of the Tay and its tributaries are favourite breeding grounds of this bird, the finest breeding colony I have ever seen being a little below General Wade's Bridge over the Tay, near Aberfeldy. It was a beautiful and most interesting sight, and having seen the nests several times, it did not occur to me as at all necessary that I should disturb them for an unnecessary purpose.

Proceeding cautiously along the banks, it may be our fortune to come upon Burns' "fisher **Heron**, watching eels," and if you happen to come round the corner on him, most likely he will emit his alarm note, a loud "squac," and be off in a terrible fright. Or again, you may, if the day is hot, have slipped down on a commanding knoll under the shelter of a few birches, and have had the pleasure of watching his lordship flap along the windings of the stream till he dropped down at a convenient spot and took up his position, and observe how circumspectly he notes all his surroundings to make sure all is right. His stay is long or short it may be, and off he goes again. In the evenings you will often observe him and hear him, too, as he passes overhead to some favourite feeding ground. I might have noted him as a bird of the wood in consequence of his nesting place. Few and far between are the

heronries now, and the days of the falconer have now all but ended. However, it is worth your while to travel a considerable distance to see these birds at their nesting place. A heron is rather an ungainly bird, either rising or settling on the ground, but his attempt at settling on the bending branch of a fir or larch baffles description. It must be seen to be appreciated. This is a bird, the eggs of which one could almost recommend to the egg-demon to secure, but only on condition that he secures them himself. If not an expert climber he runs a very fair chance of a broken neck instead of the couple of coveted blue shells. In the case of the heron, the old adage of bonnie feathers making bonnie birds is verified. A young or immature heron is by no means a pretty bird, but the adult in spring is most graceful and beautiful. Specimens of both will be found in the collection.

But while you were on that grassy knoll watching the heron, or among the willows watching the Grebe, your attention possibly was attracted by a flash of blue that had passed and gone ere you could quite take in that it was a bird, and most probably the bird has gone quite a quarter of a mile and round the next bend of the river till you begin to wonder if that really was a **Kingfisher**. Well, yes, it was, and if your ear had been quick enough to detect his screech, you might have been prepared for a better look of him. We actually have a pair or two of those birds with us yet, and if we could only persuade people to leave them alone, it would very soon become comparatively common, but my hope is not sanguine of the result; so long as our ladies covet its beautiful plumes and the rustic maid is envious to possess a duplicate, and a third person is satisfied that a skin, stuffed out till it more correctly resembles a pin cushion than a bird, is nevertheless pretty, and the correct thing for him to decorate his best room with. The poor kingfisher must, I fear, continue to suffer in person because Nature has bestowed on him a pretty coat. Like many more phases of bird life, if you happen to be so fortunate as to see this bird at rest, or perched on the outlook for food, you are more likely to see him settle near, while you are sheltered under cover of some sort. For such work, the birds have to come to you, there is little progress made if you try to go to them, and to accomplish the end in view, a considerable amount of patience and observation is necessary. But then, that is just one of the great enjoyments of field life study.

While following the river, and it may be when

crossing a bit of permanent pasture or haugh, having a few scattered whin bushes, your attention will be drawn to a brown plumaged bird with a decidedly black head and white ring round the neck and throat about. It is about the size, and there is something about its flight and general bearings that are rather suggestive of the yellow-hammer. So it may, as this is another of the same family, the **Reed Bunting**. It is a bird that is easily recognised, if once your attention is directed to it, and not at all uncommon in this district. As its name suggests, you will often find it about the side of a reedy stream, but as often inland, in some quiet lane or side of a bit of moorland. By no means a shy bird, you will have ample opportunity of studying it once you find it. The black head and white collar with a peep at the specimem in the cases, should enable you to identify this bird without difficulty.

While following the river we pass our Carse Mosses, and these remind me of a bird, of which we posses a locally-taken specimen, the **Bittern**, and for which we are indebted to Mr Bruce, Victoria Square. The bird was shot on Cowie Moss. It was secured quite accidently, having been recovered from some childen who were using it as a plaything. Whether owing to the severe handling it had probably got, or the shortcomings of the taxidermist, or part of both, the specimen is not a very nice one, nevertheless it proves the identity of the bird at all events, and is the best proof of our claim to it in our local list. Time was when the boom of the Bittern in our mosses and bogs must have been as familar a sound as it is now rare. In point of fact we cannot claim the bird as one likely to be met with, and it gets into the local list by little else than accident.

Leaving the river, and following the course of some of its many feeders, we should not be long in finding, if we have not already sighted, the **Water Ouzel**, perhaps equally well known as the **Water Craw**. You all know the bird, and there is no use describing it. Perhaps you may not all be aware that this well known favourite has a pretty song. That is so, and if you get abroad in the early months of the year, when most birds are silent, you may hear the Dipper pouring forth his melody, soft and low it may be, but very beautiful. Out about the Craigforth Cruive Dykes, I have often listened with great pleasure to this pretty singer, when a glint of sunshine brightened for a little a blustery February day. The dipper is not over fond of

attention, and if you wish to hear him, don't advance too near.

In our field walk we have already found the wagtail of the fallows, and in this journey we should find the Wagtails of the Burns, the pied or black and white bird so familar to all, and the other, well enough known in this district, though not quite so common, the **Gray Wagtail**. The pied bird needs no description here. The gray might not be recognised by name, it is a comparatively quiet coloured bird in winter of grayish tone, but in spring is one of our most beautiful and daintiest of birds, and as it flits along in front, in the bed of some mountain burn, now and again poising on the top of the boulders in its characteristic manner, nothing more graceful could possibly be imagined. This bird can be readily identified from *Raii*, its tail is decidedly longer, and the throat and upper part of the chest is a decided black, showing like a shield. Though widely distributed this bird is not numerous in any one place.

Another bird that you are certain to disturb along the river bank is the **Sandpiper**. Noisy at all times, but particularly so during the nesting season, you will soon recognise, if you do not already know this bird. You will find it in summer at the side of nearly all, if not every miller's dam or farmer's pond. A dainty looking creature, with longish legs and general plover look, brownish above and white underparts, its peculiar call of "weetle, weetle, weetle" when you disturb it will soon become familiar to you. Beside the common sandpiper, there should be some other species found on our muddy estuary, but these I have not yet had reported, nor have I been able to add them.

One bird more of the river and I have done with this summer walk, that being the **Sand Martin**. We mentioned it when treating of the swallows, and a short notice will suffice. Always found in colonies, it is not at all particular for a nesting-place so long as it can find a steep sandy bank suitable for its purpose. Here and there along the river banks it occurs, and Cambusbarron sand pit supplies another variety of locality. Always nesting in a hole in the sandy bank, sometimes only a short distance in, at other times you may scoop out the hole to a depth of several feet, and even then have to give up the task. But it is not worth your while, at best you only find a few feathers and four tiny white shells, so fragile that most probably you will chip or break them in the taking, and for precious little use, so far as I can make out, after they are taken. No, admire

the pretty birds as much as you will, but leave their nests alone, and don't disturb them, such proceeding is not at all becoming of grown-up people that should know better.

To conclude this division of the subject we must hark back and now take up the estuary of the Forth and the lower reaches of the river in winter, in order that we may complete our lists of aquatic fowl. A walk in winter at first does not sound so enticing as a summer ramble, still to a field naturalist if will be quite as interesting. Every winter provides a fair variety and number of wild fowl in the Forth, and in severe winters we have a feast of good things in this department. Of ducks, for example, obtained in the Forth, and which you should be able to find any winter, specimens of which are to be seen in the cases, are the Shelć Duck, Mallard, Teal, Widgeon, Pochard Scaup, Tufted Duck, Golden Eye, and Goosander. It will take a little time for you to make the acquaintance of them all, but one winter will do wonders if you are in earnest. Of Gulls we have the common **Blackheaded Gull** that follows the ploughman in the spring and nests on our carse mosses. The **Common Gull** not quite so common a bird as the name implies, but of which we have a fair number, especially immature birds at the end of Autumn; the **Herring Gull** with his beautiful grey mantle when in mature plumage, the **Lesser Black Back**, with the herring gull, is not uncommon on our hillsides in early spring and also at intervals you will see individuals of that magnificent bird the **Great Black Back**; you don't see him every day, and if you are a bit of a sportsman you will find about as ticklish a job in securing even one specimen of this bird as ever you tried. It's one thing to see a Great Black Back and quite another thing to secure him. Splendid in appearance he is nevertheless one of the most destructive of our British Birds. Anything and everything serves as a repast and he is hated equally by the sheep farmer and game preserver, and with equally good cause. Carrion is equally acceptable. Macgillivery (vol. v., p. 530) hits the spotless plumage of this bird off admirably in the following sentence:—"No sprinkling of dust, no spot of mud ever soil his downy clothing, his bill exhibits no tinge derived from the subject of his last meal, bloody or half putrid though it may have been, and his feet la ed by the clear brine are ever beautifully pure." Like all Gulls this bird takes several years ere it assumes full adult plumage In immature plumage they have a mottled brownish appearance more or less marked according as they

are nearing maturity. Specimens in several stages, from birds in the down to mature birds, are to be seen in the cases. Another Gull that I have not been able to add, but recorded by Harvie Brown as a bird of the Forth, in the last edition of Yarrell (vol. iv.), is the Glaucous Gull. I need not say I will have great pleasure in doing the needful for any local specimen of this bird procured for the collection. Nearly allied to the Gulls follow the Terns or Sea Swallows. Most elegant swallow-like birds to be met with on the Forth in summer, and more plentiful on Loch Lomond. I have only been able to procure the Artic and the Common Terns. I think addition may be hoped for here.

I have already recorded the Little Grebe, but the cases also contain a specimen of the **Great Crested Grebe**, an immature bird taken on Loch Lomond. During the severe winter of 1877 I had the pleasure of twice seeing one of these birds on the Forth, a little below the junction of the Teith and Forth. I made an attempt to secure it, but was not successful. It was swimming in a small unfrozen part of the river, and when disturbed had to escape by flight, it passed 30 or 40 yards from where I was concealed, and I made quite sure of the bird's indentity. It was the only specimen I have seen on the Forth.

Of Geese the collection has a very fair lot, several, however, not local specimens. Of local birds you will find a pair of **Pink-footed Geese**. These are the birds that you hear passing overhead, especially in spring, making their peculiar gaggling noise, and doing a lot of mischief to the Carse farmer's beans during the sowing season. These birds are often confounded with the **Bean Goose**, quite a different bird, much rarer in this locality, and of which I have no specimen.

Besides the Pink Foot you will find a curious looking goose in the cases having a considerable part of its feathers reversed, giving the bird rather an odd look. That bird, with two others, I believe, was killed on the Teith near Doune in the winter of 1885. It is not a British bird proper. I have seen a drawing of this bird in a copy of the *Illustrated London News*, described as the **Sabastopol Goose**, and exhibited as a novelty in London, if I mistake not. The bird we have I expect had escaped with its fellows from some private pond.

Another straggler we possess is a fine specimen of the **Egyptian Goose**, taken on the Allan on 10th July of last year. Only a very limited number of specimens are recorded from Scotland and even these are most likely escapes from

private ponds. Whether or not such specimens are properly included in local lists or even British lists I leave to individual taste. Personally, I must say that I cannot admit the claim as good, although such specimens are in themselves most interesting and educative, and our best thanks are certainly due to those who thus assist us in adding to locally obtained specimens.

Of Swans, we have the common **Mute Swan** in our private ponds from which specimens occasionally escape and find their way to the Forth. Of other species I have as yet got none. Of coast birds proper we can make no good claim. A stray Gannet may find or rather lose its way in getting rather far up the estuary, and a dead or dying Guillemot may occasionally be met with, but our district has no legitimate claim on such birds. Suppose a Guillemot or puffin gets blown inland during a gale, and is found at our doors does that justify us in putting such a bird down on our list as one of our local birds. It's a bird locally obtained no doubt, but the claim of a local bird sounds far fetched.

Leaving the river and its tributaries we will choose another late spring or summer morning, and betake ourselves to the

MOORS AND UPLANDS.

To those of a sporting turn the moors will at once suggest the grouse and its attendant sporting attractions, but our visit is too early for sport, and therefore we can take a little time by the way for observation. Leaving the arable and getting to the grazing grounds perhaps, the first bird to attract your attention will be a dainty little bird of greyish hue with light-orange tinted throat, having a jerky habit somewhat after the style of a robin as it flits before you on and about whin bushes and dry stone dykes. It's cry of whooit, chick, chick, continuously repeated will of itself suggest its family name of Chat and the whin bush will supply the specific name, **Whin Chat**. This is a bird that you can hardly fail to get speedily acquainted with on a bit of moorland, and a very generally disturbed bird in the uplands of our county.

Another bird to be found in much the same locality haunting the dykes and cairns, having the same jerky habit, a good deal of similarity in general tone to the Whinchat, but having a distinct patch of white feathers on the rump which at once will enable you to indentify the bird is the **Wheatear**. Like the whinchat it is not an uncommon bird in the pastoral grazings of the county. On the downs of England, especially during

the autumn migration, thousands of these pretty birds are snared for the supposed requirement of the table. I hope we will soon be able to convince our legislation that this is a source of food supply that we might do without.

A much less common bird in this locality, but met with occasionally, is the **Stonechat**. It resembles the Whinchat in some degree, but is more "dumpy" in appearance and having once become acquainted with his general appearance, his black chin and white collar will complete his identity. I can do nothing better than advise you to compare these three birds as you will find them in the cases.

Another bird generally distributed but particularly fond of a bit of moorland with a few stunted trees here and there at intervals just on the margin where the moorland and arable land meet, is the **Cuckoo**. Everybody knows this bird by his note at least, and as everyone may not yet have made a close acquaintance with him you will find him set up for inspection in full and immature plumage.

Yet another bird, but not at all so generally known that loves the borderland of the arable ground and moors, particularly where a belt of wood forms the boundary, with whiny broken ground around is the **Night-jar**. The sound of the spinning wheel is said to have ceased, but in this bird's note we have a very good imitation of the genuine article. Beginning in the early gloaming and continuing through the short summer night till the beams of the morning warn him off the course, you may hear the whirr of the Reeler in such a locality as I have described. I have specimens of the bird from Keir and Touch estates, so that the bird is quite at your doors though I doubt if many in this room have seen it. The gape is wide and the bill small and short, quite swallow-like, the plumage soft, altogether owl-like, and a combination of the most pleasing greys, the middle toe is notched along one side like a comb, altogether the Night-jar is a bird you ought to know a little about, and once you do come across him you can't readily mistake his identity.

If you have not already made acquaintance with the flocks of **Grey Linnets** about our carse hedges, you are pretty sure to come across the bird in its nesting quarters among the whin bushes of our upland pastures. The male, with his rose-coloured breast and brown coat, may be seen at a convenient distance silently taking note of your proceedings; his mate is sitting in some neighbouring bush; but you have likely seen a lintie's nest before, and as we are in somewhat of a hurry, don't put off time

to-day. Leave them alone, they can do without our attentions.

Moving on we come to the heather, and our attention will be directed to a linnet-like bird fluttering in front. Perhaps one of the bird-catching fraternity may tell you it's a Rose Lintie, or a Heather Lintie, or maybe something else in the way of linties. Their stock of supposed varieties is sometimes rather confusing. Well, if you have mastered the identity of the grey or common linnet, you should be able to notice that the tail of this linnet is decidedly longer than that of the common variety, and you can make sure of its being the **Twite**. Its call will also go to corroborate your opinion.

Another little bird of the moors, of the linnet family, is the **Redpole**. An interesting little creature not uncommon, that most probably you have seen kept as a cage-bird, and that interested you by drawing up its seed box and water glass. In winter you will often find it, in company with tits and finches, one of the latter being a winter visitor, and often taken as a cage bird—the **Siskin**—feeding on the alders and birches, and very interesting it is to watch the clever tiny creatures hanging on the tender shoots, and working away with the utmost assiduity.

Most likely ere this we will have heard or seen, what perhaps we should call *the* bird of the moors, the **Moor Cock** or **Grouse**. Rejoicing, as he does, in the specific distinction of *Scoticus*, we should have a special interest in this bird. Our mountain ranges are decidedly favourable, indeed, necessary for the existence of this fine bird; deprive him of his moors and his ain native heather, and *lagopus scoticus* would soon be as extinct as the great auk. We claim him as literally our own; the bird being only found in the British Islands. He gets along very well indeed, when the moor adjoins a bit of arable ground, and he can get a change of food in the form of a diet of oats in its season. He can do with the heather without the oats, but he does not seem to be able to get along comfortably on the oats without the heather. No wonder though he is the favourite bird of the sportsman, you have only once to seek him in his wild abode and hear the bold defiant call of the cock bird, as he seems to warn you "back, go back, go back." Its a siren song, instead of going back you follow, follow, and if time and purse permit, you will wish as the season comes round to follow ever. The taking of the eggs of this bird is a statutory offence, may inform you; I would therefore advise you not

to look for its nest as you might be tempted. Rather amuse yourself looking for that of the bird that must have already come under your notice, its alarm note of "poor-ee, poor-ee," often and continuously repeated, will have enabled you to recognise the **Curlew** or **Whaup**, or its little brother the **Whimbrel**—both birds are to be found on the moors in our neighbourhood. If you have not had some practice looking for the nest of the Curlew, it's doubtful if you will take home many specimens.

But before you reached the grouse moor, and when you were climbing that bit of rocky face after leaving the lower pasture ground, perhaps you disturbed, but took little notice of a bird of a sooty black, and the size of a blackbird or thrush that went off with a harsh, somewhat blackbird-like note; perhaps you just supposed it might be "some bird of that kind." Quite so, it was just a bird of that kind, but different, and a bird of which we should be rather proud, as every district does not possess it. You don't find the **Ring Ousel** or **Mountain Blackbird** every place you may look for it, and as this is the bird you have quite near your door, it's worth while to spend half a day making his acquaintance. Here you have a genuine Son of the Rock. His home is the bleak hill side, and there you must go to find him. He catches his spirit of freedom from the mountain breeze, and has no inclination to associate with mankind. The intrusion of a human being near the home of the Ring Ousel puts him into a very excited and irritable state. If you happen to trespass near the domicile when being utilised as a nursery, you are not likely to forget the reception that will be accorded you. If you find the bird, and have any doubts as to identity, a broad band of white across the breast will enable you to distinguish it. The bird is migratory, and you will find it in summer at the back of Demyat or along the face of the Gargunnock Hills. The eggs are exactly like those of a blackbird. If you are gathering egg shells a pair of blackbird's would do quite as well, and are easier got. Besides, I hope you will agree with me that it would be better to leave the ring ousel alone. There is a sort of proud independence about this bird, that once you know him I feel sure you will respect him too much to think of doing such a silly thing as taking its eggs.

Having got up on the upland you most likely hear a plaintive "pee-ee" that will sound a little weird if you are not accustomed to the spring and early summer music of the children of the moors.

Looking cautiously and carefully about you will see a solitary plover-like bird at a little distance off, taking apparently little notice or alarm, but watchful all the while, and keeping about the same respectable distance. You perhaps know the **Golden Plover** of the poulterers in winter with golden plumage and white or whitish underparts. This bird has a jet black breast, but otherwise your winter golden plover. This is the bird in its nuptial dress, a very pretty creature at all seasons.

Another plover very closely related to this you will long ago have noticed, and perhaps have had just a little too much attention from,—the **Peeweep** or **Green Plover**. It is quite as much a bird of our fields, but the associations of this bird seemed more in keeping with the wild moorland, "Where Peesweeps, Plovers, and Whaups cry dreary." The bird is so well known it only requires to be noted.

The **Redshank**, another bird of the Plover family, will be found in this ramble, and you will find it also on lower marshy ground. The birds are even more demonstrative than the Peeweep at its breeding quarters, so much so that this characteristic is sufficient to mark it. Less than the Golden Plover, more slender, the white rump and under plumage and pretty grey tone of the upper plumage should, with its shrill piping call, lead you to guess its identity.

You will, of course, have come across lots of **Moor Tits** or **Moss Cheepers**, the favourite foster parent of the Cuckoo. This bird is so common, I only mention it.

If you are in luck you may also come across the nest of the **Snipe** or disturb it. It is also a bird that you all must know perfectly, and in the winter season you will find it more certainly along the muddy margins of the Forth, or in some of our carse pows in company with its near relative the **Jack Snipe**. In winter you should find both birds within ten minutes' walk of your own doors.

Another bird that is to be found in our immediate neighbourhood, and nests regularly with us in very limited numbers, is the **Stock Dove**. Quite a different bird from the ring dove or cushat. The specimens I have for your comparison I took myself. There are not too many of them, and I shall be careful to try and preserve rather than exterminate the birds. In these days of skin collecting it is perhaps not desirable to point out with precision the exact locality where such a bird as this is to be found, but to a genuine field naturalist wishing and deserving of the information, I need hardly say that

with the greatest delight I will direct his steps to where he ought to find it.

Away back on the moorland streams, an interesting, and not at all common bird in many counties, favours ours by including it for nesting ground. This is the **Dunlin**, a bird of the shore; it retires to these moorland burns to breed. Quite a little creature, having quite a distinctive plover-like appearance. Perhaps the best advice I can give you for its future identification is to refer you again to the Museum cases. I have only one specimen, but that is sufficient for your purpose meantime.

Passing over the moor, it is possible that yet you may come across one of our smallest and one of the pluckiest of our hawks, the **Merlin**. A courageous little rascal, he will fly at almost anything, and one consents to his destruction with a feeling akin to regret. However, for the good of the many, I really cannot plead for its preservation. The more the rapacious birds are kept down, the better chance for our birds in general to increase. The persistency with which the nesting places of birds, particularly rapacious birds, are taken up by new comers when the possessors are destroyed has frequently been remarked upon, and this peculiar fact is very marked with regard to the merlin. Season after season the birds are destroyed, and again and again is the same ground occupied by new comers. Like the falcon, the merlin loves a wide expanse of open ground, and is a characteristic bird of the moorland, the male bird in full plumage is a handsome creature, and I have been fortunate in securing a pair of very fine birds for our collection.

On the moorland, or on the border of the pasture and moorland, you may also find in a late spring ramble a **Grey Hen**, the mate of the Blackcock, busy in the undivided duties of the family circle. Like the Pheasant, the male bird takes no share in domestic cares. The birds are still found in limited numbers on our moors, but are not numerous, which is matter of regret, as the Blackcock, in full plumage, is one of our finest birds. Well may the sportsman, when successful in circumventing him in the end of September, put him on his list with some feeling of satisfaction if he stalks him in a fair, sportsmanlike manner. He is then a most wary and strong bird, and the fellow who is good at stalking blackcock has learned a good bit in advance of what is required in getting on terms with the "monarch of the forest," should he ever have the good luck to have the chance of a fit of the shakers, as he tries to draw himself together to his first stag. And now the

only remain for us to group together. They are not numerous, but if few in number it must cost some trouble to get a personal acquaintance with them. Like all kindred studies, one or two visits are of little avail, it requires a lifetime of observation, and even then, we feel that we are only beginning to learn. It is a strangely fascinating subject, year after year you wander among these delightful creatures. Possibly on very few days, especially if you have begun early, are you aware that you have learned or observed anything particular, and yet, as certainly you have been learning something every day. Not necessarily something new, far from it, you learn it and find some Macgillivray has the genius of conveying the facts to his fellows, a gift that only a few possess, but you must bear in mind you never really know these observations until you have seen them for yourself, it is there the charm must be. But to return to our mountain birds, on our way we will pass, at their suitable localities and altitudes, many birds that we have already noted; but we want to touch higher and as yet unknown ground. Perhaps the first stranger will attract you by his hoarse croak, or as likely you may be obliged to some friend for first drawing your attention to it. In early spring a pair of crows, as you may be excused for supposing them to be, are diving and toying with each other high above you, and uttering now and again the bird's peculiar note at that season. My friend, these are **Ravens**. Time is not so long since when you could have found him nearer home, but he is still a bird of the county and nests regularly. The sheep farmer, and game preserver, have each good reason to wage war against him, but he still is able to keep a hold in his fastnesses. The ways of these birds are a study of itself, and you will find the result of a great amount of careful observation recorded by Macgillivray. He has lived with the bird, and you will feel he knows what he is talking about. I have three local specimens for your benefit, one of them so local that he has some claim to the Smith Institute as his particular locality. I got him from a crag in Ben Lomond when a nestling, and his new quarters though not quite natural, seemed in no way to disagree with him. In due course he grew to be a pretty bird and perfectly tame. He had the run of the grounds and would follow me about like a spaniel. I always saw him to roost and he seemed as

fond of a little caressing as a child. By way of good night I used to scratch his poll or tickle him under the chin, when he would half croak, half chuckle his satisfaction, and there he remained till allowed out again next day. His love of glitter was marked; if at anytime I wished to bring him to the house, I only required to call him and dangle my watch chain. He would hop along in his peculiar one-sided way, and keep hopping in front, making an occasional jump at the chain till we got to the house. His end was tragic. I let him out one Sunday morning, missed him at mid-day, and failed to find him on his perch at night. It was a couple of days afterwards ere his body was brought in by a boy, who was able to inform me that on Sunday "twa fellows had catched my craw and knocked its head on the railings." Thoughtlessly (let us hope) they had deprived me and others of a very interesting subject for observation.

Another bird that yet finds an asylum in our mountain cliffs is the **Peregrine Falcon**. His numbers are now very limited, but he is still with us. A magnificent bird, no doubt, but a terrible butcher, the toll he exacts from a grouse moor is very heavy, and he will often strike down bird after bird without even following it in its fall. Not so long ago several pairs built within a limited circle of our town, and one of these, I believe, is yet tenanted. The nearest I have found was Ben Lomond, and there he is to be found yet I doubt not. It is not so many years ago since I got a most obliging keeper and a shepherd to carry up a good heavy rope up the Ben and lower me over to a Peregine's nest, the first and only one I ever had the pleasure of viewing. It was on a ledge not over 6 inches broad, and as we had not quite hit the spot, I could only reach it by lowering myself on to my back, and I just succeeded in reaching the apology of a nest. Campbell's lines as to rough natures children seemed most applicable to the home of this bold marauder. Its home and surroundings could not very well have been ruder or rougher in all its conditions. To accomplish my object, I walked from Drymen Station to Rowardennan, my only knowledge of the road or guide being a look at the Ordnance Survey Map before leaving. I landed about midnight. Next morning we were afoot betimes, accomplished our object, and I got the down mid-day steamer for Balloch. I would not have missed the chance for a good deal, and once you come to love the birds and all their ways, I know you will do likewise. I don't pretend to be

fonder of being hung over a rock face any more than other people, but I wanted to see the Peregine's nest, and that was the only way it could be done.

During the late autumn months you will find flocks of the **Snow Bunting** in the higher flats of our mountains, and later on, it descends to lower grounds, driven downwards by the scarcity of food. Along with it, associated with other finches, you also find the **Brambling**. Local specimens of both have been procured. I find both birds spoken of by the name of the Cock of the North. Some of these local names are apt to be misleading, and unless you are careful you are apt to get into a difficulty.

Another bird of our mountains that is getting rarer in our county, but likely to keep a hold, though much reduced in numbers, is the **Buzzard**. Rather a pretty bird as a specimen, and having a fine appearance on the wing as he wheels and soars in the most easy and graceful manner, he is nevertheless a lazy careless bird. Preferring a carrion diet if obtainable, he is wanting in energy to pursue and destroy like his much less bulky but more active neighbours, the falcons. The bird is still met with on our mountains, but you don't see it every day now.

The last bird we can lay claim to, so far as I am aware or remember, is the **Ptarmigan**. Their numbers in the county are few, but we are quite entitled to claim the bird. It may be found any day in the year if properly and purposely looked for. The broken and grey lichen covered rocks on the top of our mountains is his home, and only the stress of the most severe weather will force it to descend from its haunts, and even there it seems ill at ease and ever ready to return upwards at the first opportunity. The plumage of this bird is constantly in a state of change. On first consideration, one is apt to suppose that this would be effected by the process of moulting, and at certain seasons this, no doubt, accelerates the process, and particularly when the uniform grey of the summer plumage is donned. I have, however, put a considerable number of these birds through my hands, in the stages between the partial grey of autumn to the perfect white of winter, and I am quite satisfied the colouring of the feathers also change, and adds in no small degree to the acquisition of the variation in this bird's dress. The feathers gradually change their colouring while no moult is in progress. By this means the bird is provided to protect itself by assuming a perfect similarity in tone to its sur-

roundings, otherwise its extinction would very soon be an accomplished fact. They are curious birds, one day they are wild as hawks, the next, perhaps, they lie like the stones that protect them, and you may pass right through the centre of a scattered covey and not flush a bird. Their cry is a sort of frog-like croak, and, in their wild surroundings, I like to hear it very much indeed. It's a much better "Health Restorer" than those we find so much advertised in the daily press.

Having thus hurriedly brought under your notice the birds that have been obtained locally, I will now add the few species I am aware have been secured in our district, but of which we have not locally obtained specimens, and it may be no specimen at all.

The first bird that occurs to me to mention is the **Osprey**. This I would say is not a bird that could properly be termed at the present day a bird of our district. A specimen was unfortunately destroyed at Polmaise a year or two ago. I believe it is preserved there, and I suppose it is looked upon as in some way a curiosity. The bird was shot in summer while carrying off a fish from a pond. The destruction of this bird at that season was, I think, very unfortunate indeed. As you know the bird was all but extinct from our British fauna, but it is pleasing to believe that there is better hope of its preservation.

Another bird, of which a good few specimens have been taken in the vicinity of Stirling during winter, is the **Great Grey Shrike** or **Butcher Bird**. If the interest in the collection was as general as it might be, this species should not at present still remain a blank on the local list. The **Great Spotted Woodpecker** is another occasional visitor, of which a specimen visits us at intervals. I have also seen the **Quail** very near our doors. Several of them were shot on Craigforth Estate during the autumn of 1881, but I have not since heard of the bird being seen.

The **Little Stint** has also been taken on the Forth above Stirling Bridge. I saw the bird soon after it was procured, but it is only a casual visitor. The **Waxwing** is another bird of the casual visitor class, of which several specimens were obtained in this district during the severe winters of 1879 and 1880. When faunas of districts are being compiled there is a tendency to a sort of competition in numbers not quite desirable, as it may be misleading. All birds that belong to the occasional visitor class should be carefully noted as such. I have already

referred to the **Glaucous Gull** as a bird yet to be added.

In addition to the ducks enumerated I hope to add the **Shoveller** at no distant date. As with the Stock Dove, it is not desirable to localise it more particularly at present, but its claim is good to a place among our local birds.

It remains with me now simply to enumerate, along with our local procured birds, the other British birds that the collection at present contains, and for these I refer you to the appended printed list. A considerable number of these, particularly the smaller migratory birds, are not likely to be met with so far north as the Stirling district, and I am indebted to my friend, Mr Harry Medley of Romsey, Hants, a most enthusiastic field naturalist, for enriching our collection with a great number of very fine specimens that otherwise I could not possibly have obtained, and that many I hope will be interested to see. For the bulk of the seafowl I am indebted to Mr Archd. M'Kay, a genuine Highlander, and one of the most cultured and obliging keepers it has been my fortune to meet; also to Mr A. M'Elfrish, an old Stirling boy, now Sheriff-Clerk Depute, &c., at Tobermory, and besides a most observant field naturalist and keen sportsman. For local assistance I am also greatly obliged, and have acknowledged the debt on the labels attached to the specimens.

It may be that now I have enlisted some who would wish to assist, and with that hope I give a few hints to would-be helpers. First of all, I would advise you, our would-be friends, to look carefully over the specimens, and if that is not possible, over the list, as it will now be printed. If they can have five minutes to spare with me at the Institute, as to what they think they can do, I will be delighted to advise. It saves writing, and I don't like it if it can be avoided. Especially would I warn all that I don't want to destroy a single bird wantonly or needlessly. I even grudge the collection pair, but hope by sacrificing these I save many more. Next, I don't want skins, or else it is something local and rare indeed. I must have the bird in the flesh, and to send it in decent condition try to follow this advice. So soon as shot, hold the feet and wings firmly till the bird is dead, but so as not to crush the plumage, then lay it on its back; if you can plug the shot holes with a little cotton wool to prevent bleeding, all the better, but at all events you can open the bill and stuff as much moss or grass, if nothing else is handy, into its mouth as to

plug the throat, so as to effectually prevent bleeding from the mouth. If a water bird, a little wool into each nostril is desirable. If the bird can be carried till cold, all the better, but in any case, if small, make a little "paper poke," wide at the mouth and tapered to a point, drop the bird, head first, into the "poke," and having already plugged the mouth, it is as secure as you can make it. If a larger size, place it on one corner of a handkerchief, and roll bird and handkerchief up together; the plumage should be quite unruffled if rolled up in this manner, and you can then put it in a bag in the usual way, but take care it does not get blooded off another animal or bird; and last, but not least, having secured the bird, send it off by the first possible post or opportunity. Nothing is more vexing than to get an otherwise fine specimen in a state fit only for the dunghill. The fresher and cleaner a specimen is the better it turns out. A good deal can be done in patching, but it is never quite satisfactory.

Having had so much to say about the birds, perhaps some will be inclined to ask, is it worth all the time and trouble (and to another class) the expense? To the first class I unhesitatingly reply in the affirmative, and to the latter, I hope I can put their economical spirit at rest by the assurance that the query need not trouble them, as beyond the cases in which they are arranged, and which have been provided for by the Institute trustees, the collection as it stands at present, has cost no one a copper. As I have said the study to me is a delight, and I am thankful I could afford to spare myself the outlay it has cost me in getting it together. I know no study that should afford greater health of body and vigour of mind than this and kindred subjects. In this busy age I am quite alive to the keen race that goes on for even bare existence, and can quite understand that many believe there can be no time for such things. Still, even that can be overdone, but assuming that the goal is reached, and a sufficient competency is acquired to enjoy the ideal of "take thy ease." How many dozen examples have we year after year of such men dying of sheer ennui, because they have really nothing to do, and nothing to interest them. Eyes have they, but they see not. Had they been encouraged in early years to take some interest and acquire some knowledge of the birds and flowers around them, what a wealth of enjoyment, and beyond question, lengthening of their days might have been theirs. Their daily walks would then yield them daily

delight instead of a daily monotony, and as they aptly describe it—passing away the time. Wealth is surely not the greatest prize this beautiful earth can give us. If we spend a whole lifetime and never acquire any knowledge of the wonders and beauties so lavishly scattered around us, I am afraid it is but a very poor use we have made of it, if we have done nothing more than gather together so many ounces and pounds of gold. I have the hope that I have assisted in a little way to afford some pleasure to my fellows, but I have greater hopes of widening the field for observation and investigation by the younger generation. Our youths, I am delighted beyond measure to observe, pay the bird room visit upon visit, and perfect their notes there, I hope, by observation in the open fields. The assistance that a good collection gives to the student of the subject is great indeed, and none can prize it so fully as those who have struggled on at the subject with no such help. I can still well remember, how, when a very small boy, accompanying my father on my first visit to Glasgow, and how I persistently insisted that the first object of interest I really wanted to see was the Museum. The Hunterian collection then occupied the old premises, and the delight with which I took in case after case, would I am sure, have equally delighted my then unknown, but now greatly esteemed friend, Professor John Young. I could set down some of these cases and their contents even now. Knowing and sympathising, therefore, with the difficulties of the budding ornithologist, you can easily understand how anxious I am that we should assist them all that we can, and they have plenty of hard work to do that must be done by personal effort alone. If a tendency to skin gathering is developed in some, discourage it. As our friend, Mr Lumsden, very wisely put it, when speaking of egg collecting, a well-filled note book is worth far more than a box of egg shells, and he might have added birds skins. Nothing further should be needed for reference in a district than one collection, that collection should, of course, be as complete as possible, and accessible to all. At the root of all our study of this branch should be the desire, the determination rather, to extend the interest in our local birds, and to put forth our best efforts towards their preservation and increase. The public district collection is necessary for any one wishing to become acquainted with and interested in the subject; to destroy these birds and their eggs, for a so called "my own collection" is in order to satisfy, what I fear, we can hardly otherwise describe, than a

little selfish pride, and is neither necessary nor desirable. My message to you is, save the birds, and the more you know them, the more certain are you to do so.

So long as I have charge of the public collection, the cases and their keeper shall be freely at the service of every one, and when I leave them may they be carefully and skilfully tended and may progress towards completeness, and an ever spreading knowledge of this and kindred subjects be the characteristic of the Institute and the affiliated Archæological and Natural History Society.

Note.—Specimens which have been taken in the district are marked *(a)*, and the locality printed in italics.

(Classification, Yarrell 4th Edition)

Order I.—RAPTORES.

Falconidæ.

Golden Eagle,	
Aquila Chrysœtus,	Skye
Peregrin Falcon,	
(*a*) Falco Peregrinus,	*Ben Lomond*
Merlin,	
(*a*) Falco Æsalon,	*Gargunnock Hills*
Kestril,	
(*a*) Falco Tinnunculus.	*Sauchie*
Sparrow Hawk,	
(*a*) Accipiter Nisus,	*Gargunnock Hills*
Common Buzzard,	
(*a*) Buteo Vulgaris,	*Ben Lomond*
Hen Harrier,	
Circus Cyaneus,	Lochmaddy, Sutherlandshire

Strigidæ.

Tawny Owl,	
(*a*) Strix Aluco,	*Craigforth*
Long-eared Owl,	
(*a*) Asio Otus,	*Sauchie*
Short-eared Owl,	
(*a*) Asio accipitrinus,	*Touch*
Eagle Owl,	
Bubo ignavus,	American Specimen
Snowy Owl,	
Nyctea Scandiaca	American Specimen
Barn Owl,	
(*a*) Aluco Flammeus,	*Craigforth*

Order II.—INSESSORES.

Laniidæ.

Red-backed Shrike,	
Lanius Collurio,	Hampshire

Muscicapidæ.

Spotted Flycatcher,
(*a*) Muscicapa Grisola — *Smith Institute Grounds*

Cinclidæ.

Dipper,
(*a*) Cinclus Aquaticus, — *River Forth, Stirling*

Turdidæ.

Mistletoe Thrush,
(*a*) Turdus Viscivorus, — *Back Walk, Stirling*
Song Thrush,
(*a*) Turdus Musicus, — *Do.*
Redwing,
(*a*) Turdus Iliacus, — *Do.*
Fieldfare,
(*a*) Turdus Pilaris, — *King's Park Farm, Stirling*
Blackbird,
(*a*) Turdus Merula, — *Smith Institute Grounds*
Ring Ouzel,
(*a*) Turdus Torquatus, — *Gargunnock Hills*

Sylviidæ.

Hedge Sparrow,
(*a*) Accentor Modularis, — *Smith Institute Grounds*
Robin,
(*a*) Erithacus Rubecula, — *Do.*
Nightingale,
Daulias Luscinia, — Hampshire
Redstart,
(*a*) Ruticilla Phœnicurus, — *Airthrey*
Stonechat,
(*a*) Saxicola Rubicola, — *Leckie*
Whinchat,
(*a*) Saxicola Rubetra, — *Leckie*
Wheatear,
(*a*) Saxicola Œnanthe, *Polmaise and Cringate Moors*
Reed Warbler,
Acrocephalus Streperus, — Hampshire
Sedge Warbler,
(*a*) Acrocephalus Schœnobænus, — *River Forth*
Lesser Whitethroat,
(*a*) Slyvia Curruca, — *King's Park*
Blackcap,
Sylvia Atricapilla, — Hampshire
Willow Warbler,
(*a*) Phylloscopus Trochilus, — *Back Walk*
Chiffchaff,
Phylloscopus collybita, — Hampshire
Golden Crested Wren,
(*a*) Regulus Cristatus, — *Abbey Craig*

Troglodytidæ.

Wren,
(*a*) Troglodytes Parvulus, *Smith Institute Grounds*

Certhiidæ.

Tree Creeper,
(*a*) Certhia Familiaris, *Abbey Craig*

Sitiidæ.

Nuthatch,
Sitta Cæsia, Hampshire

Paridæ.

Great Titmouse,
(*a*) Parus Major, *Back Walk*
Blue Titmouse,
(*a*) Parus Cœruleus, *Do.*
Coal Titmouse,
(*a*) Parus Ater, *Do.*
Marsh Titmouse,
Parus Palustris, Hampshire
Longtailed Titmouse,
(*a*) Acredula Caudata, *Port of Monteith*

Ampelidæ.

Waxwing,
Ampelis Garrulus, American Specimen

Motacillidæ.

Pied Wagtail,
(*a*) Motacilla Lugubris, *Smith Institute*
Grey Wagtail,
(*a*) Motacilla Sulphurea (winter plumage), *Touch*
Yellow Wagtail,
(*a*) Motacilla Raii, *Hood Farm near Stirling*

Anthidæ.

Tree Pipit,
(*a*) Anthus Trivialis *Craigforth*
Meadow Pipit,
(*a*) Anthus Pratensis, *Polmaise*
Sky Lark,
(*a*) Alauda Arvensis, *King's Park Farm*

Emberizida.

Snow Bunting,
(*a*) Plectrophanes Nivalis, *Ben Lomond and Touch*
Common Bunting,
(*a*) Emberiza Miliaria, *Causewayhead near Stirling*
Yellow Bunting,
(*a*) Emberiza Citrinella, *near Raploch*

Cirl Bunting,
Emberiza Cirlus, — Hampshire
Blackheaded Bunting,
(a) Emberiza Melanocephala, — *River Forth*

Fringillidæ.

Chaffinch,
(a) Fringilla Cœlebs, — *Public Road near Bannockburn*
Brambling,
(a) Fringilla Montifringilla, — *Touch*
Tree Sparrow,
Passer Montanus, — Hampshire
House Sparrow,
(a) Passer Domesticus,
Hawfinch,
Coccothraustes Vulgaris, — Hampshire
Greenfinch,
(a) Coccothraustes Chloris, — *Back Walk*
Goldfinch,
(a) Carduelis Elegans, — *(1) Cage Bird and (2) trapped Craigforth.*
Siskin,
(a) Carduelis Spinus, — *Old Mills Farm, Stirling*
Lesser Redpole,
(a) Linota Linaria, — *Ben Lomond and Campsie*
Linnet,
(a) Linota Cannabina, — *Raploch and Gowlanhills*
Twite,
(a) Linota Flavirostris, — *Touch*
Bullfinch,
(a) Pyrrhula Europæa, — *Polmaise*

Loxidæ.

Crossbill,
(a) Loxia Curvirostra, — *Touch*

Sturnidæ.

Starling,
(a) Sturnus Vulgaris, — *Stirling*

Corvidæ.

Chough,
Pyrrhocorax Graculus, — Purchased, locality not known.
Raven,
(a) Corvus Corax, — *Ben Lomond*
Carrion Crow,
(a) Corvus Corone, — *Leckie*
Hooded Crow,
(a) Corvus Cornix, — *Ben Lomond*
Rook,
(a) Corvus Frugilegus, — *Boquhan*

Jackdaw,
(a) Corvus Monedula, *King's Park*
Magpie,
(a) Pica Caudata, *Thornhill, Port of Monteith*
Jay,
(a) Garrulus Glandarius, *Leckie*

Nutcracker,
Nucifraga Caryocatactes, Purchased, locality not known, probably not British killed.

Picidæ.

Green Woodpecker,
Picus Viridis, Hampshire
Great Spotted Woodpecker,
Picus Major, Hampshire
Lesser Spotted Woodpecker,
Picus Minor, Hampshire
Wryneck,
Junx Torquilla, Hampshire

Cuculidæ.

Cuckoo,
(a) Cuculus Canorus, *Polmaise*
Yellow Billed Cuckoo,
Coccyzus Americanus, American Specimen

Alcedinidæ.

King Fisher,
(a) Alcedo Ispida, *Craigforth*

Hirundinidæ.

Swallow,
(a) Hirundo Rustica, *Stirling*
Martin,
(a) Hirundo Urbica, *Cambusbarron*
Sand-Martin,
(a) Hirundo Riparia, *Cambusbarron*

Cypselidæ.

Swift,
(a) Cypselus Apus, *Smith Institute*

Caprimulgidæ.

Nightjar,
(a) Caprimulgus Europeus, *Touch and Keir*

Order III.—RASORES.

Columbidæ.

Ring Dove,
(a) Columba Palumbus, *Sauchie, &c.*

Stock Dove,
(a) Columba Œnas, { *Craigforth and Gargunnock Hills.*
Turtle Dove,
Turtur communis, Hampshire

Pteroclidæ.

Pallas Sand Grouse,
(a) Syrrhaptes Paradoxus, *Near Menstrie*

Phasianidæ.

Pheasant,
(a) Phasianus Colchicus,

Tetraonidæ.

Capercaillie,
(a) Tetrao Urogallus, *Sauchie and Polmaise*
Black Grouse,
(a) Tetrao Tetrix, *Ben Lomond*
Red Grouse,
(a) Lagopus Scoticus, *Gargunnock Hills*
Ptarmigan,
(a) Lagopus Mutus, autumn and winter plumage, { *Ben Lomond*
Partridge,
(a) Perdix Cinerea, *Stirling Carse*
Red Legged Partridge,
Perdix Rufa, Essex

Order IV.—GRALLATORES.

Charadriidæ.

Golden Plover,
(a) Charadrius Pluvialis, { *Gargunnock Hills and Carse.*
Lapwing,
(a) Vanellus Cristatus, *Stirling Carse*
Ringed Plover,
(a) Ægialitis Hiaticula, *Rivers Forth and Teith*
Oyster Catcher,
(a) Hæmatopus Ostralegus, *Do.*

Scolopacidæ.

Greenshank,
Tottanus Glottis, Lochmaddy
Redshank,
(a) Totanus Calidris, *River Forth*
Common Sandpiper,
(a) Actitis hypoleucos, *Do.*
Dunlin,
(a) Tringa Alpina, *Cringate Moor*
Woodcock,
(a) Scolopax Rusticola, *Sauchie*

Common Snipe,
(a) Scolopax gallinago, *River Forth*
Jack Snipe,
(a) Scolopax Gallinula, *Do.*
Bar Tailed Godwit,
Limosa Lapponica, Lochmaddy
Curlew,
(a) Numenius Arquatus, *Gargunnock Hills*
Whimbrel,
(a) Numenius Phæopus, *Do.*

Ardeidæ.

Heron,
(a) Ardea Cinerea, *River Forth*
Bittern,
(a) Botaurus Stellaris, *Cowie Moss*

Rallidæ.

Water Rail,
(a) Rallus Aquaticus, *River Forth*
Land Rail,
(a) Crex Pratensis, *Stirling Carse*
Moorhen,
(a) Gaillinula Chloropus, *Craigforth*
Coot,
(a) Fulica Atra, *Airthrey*

Order V.—NATATORES.

Anatidæ.

Mute Swan,
(a) Cygnus Olor, *River Forth*
Gray Lag Goose,
(a) Anser Ferus, Lochmaddy
Pink Footed Goose,
(a) Anser Brachyrhynchus, *Stirling Carse*
Bernacle Geose,
Bernicla Leucopsis, Lochmaddy
Egyptian Goose,
(a) Chenalopea Egyptiaca, *River Allan near Kinbuck*
Sheldrake,
(a) Tadorna Cornupa, *River Forth*
Wild Duck,
(a) Anas Boschas, *Do.*
Wigeon,
(a) Mareca Penelope, *Do.*
Teal,
(a) Querquedula Crecca, *Do.*
Pochard,
(a) Fuligula Ferina, *Airthrey*

Scaup,
(*a*) Fuligula Marila, *River Forth*
Tufted Duck,
(*a*) Fuligula Cristata, *Do.*
Golden Eye,
(*a*) Clangula Glaucion, *Do.*
Longtailed Duck,
Harelda Glacialis, Lochmaddy and Sutherlandshire
Eider Duck,
Somateria Mollissima, Harris and Lochmaddy
Red Breasted Merganser,
(*a*) Mergus Serrator, *Loch Lomond* and Skye
Gooseander,
(*a*) Mergus Merganser, *River Forth*

Colymbidæ.

Great Northern Diver,
Colymbus Glacialis, Lochmaddy and Skye
Black Throated Diver,
Colymbus Arcticus, Sutherlandshire
Red Throated Diver,
(*a*) Colymbus Septentrionalis, *River Forth*

Podicipedæ.

Great Crested Grebe,
(*a*) Podiceps Cristatus, *Loch Lomond*
Red Necked Grebe,
Podiceps Rubricollis, Skye
Little Grebe,
(*a*) Podiceps Minor, *River Forth*

Alcidæ.

Puffin,
Fratercula Arctica, Lochmaddy
Razorbill,
Alca Torda, Skye
Guillemott,
Uria Troilie, Do.
Ringed Guillemott,
Uria Lacrymans, Do.
Black Guillemott,
Uria Grylle, Do.

Pelecanidæ.

Cormorant,
(*a*) Phalacrocorax Carbo, *Loch Lomond* and Skye
Shag,
Phalacrocorax Cristatus, Sutherlandshire
Gannet,
(*a*) Sula Bassana, *Firth of Forth*

Laridæ.

Common Tern,	
(*a*) Sterna Fluviatilis,	*Lake of Monteith*
Arctic Tern,	
Sterna Macrura,	Skye
Blackheaded Gull,	
(*a*) Larus Ridibundus,	*Carse of Stirling*
Common Gull,	
(*a*) Larus Canus,	Skye and *River Forth*
Kittiwake,	
Rissa Tridactylus,	Skye
Herring Gull,	
(*a*) Larus Argentatus	Skye and *River Forth*
Lesser Black Backed Gull,	
(*a*) Larus Fuscus,	*Ben Lomond*
Great Black Backed Gull,	
(*a*) Larus Marinus,	Perthshire and *River Forth*
Arctic or Richardson's Skua,	
Stercorarius Crepidatus,	Lochmaddy

Procillaridæ.

Fulmar,	
Fulmarus Glacialis,	St Kilda
Stormy Petrel,	
Procellaria Pelagica,	Skye

NOTE ON STONE AXE HEAD FOUND AT ARGATY, NEAR DUNBLANE.

By David B. Morris.

The stone axe head which I now lay on the table was found in the month of February last, about a quarter of a mile south-east of Argaty House, near Dunblane. For the privilege of exhibiting the relic, I am indebted to Mr M'Laren, Glenwhilk. It was found on the surface of a field which was last season in grass, and which had been in corn the previous year. The axe had probably been upturned by the plough a year and a half ago, and had since lain unnoticed. Stone axes are of two classes, perforated and imperforated. To the former and less numerous class this one belongs. There are three forms of perforated axes, (1) having edges at both ends, (2) having an edge at one end only, and (3) having both ends blunt or rounded. The first-named is the rarest of these three forms, and to it this specimen belongs. Of this type there are two varieties. In some, the edges of the weapon lie in the direction of the shaft hole. In others, the

direction of the edges is at right angles to the shaft hole, and that is the case here. We thus see that the Argaty specimen is one of two varieties of the least common type of stone axe, and is therefore a find of some value. It must be borne in mind that this is a stone battle axe, and that it was not meant to cut. The edges of this type of axe are never sharp, and they are thus distinctly separated by this special characteristic, as well as, generally, by their finer features of form and ornamentation, from the imperforate axes which were used as tools. (Dr Joseph Anderson, "Scotland in Pagan Times," vol. II., page 308.) In noticing the circular shaft hole of the Argaty specimen we observe that it has been hollowed from both sides, the borings diminishing in width to their junction, which is quite central. The diameter of the hole is ¾ of an inch at the centre, widening out to 1¼ inch at each end. In some cases, though rarely, the hole is perforated clean through the stone, the sides of the opening being quite parallel. The sides of the stone, also, are sometimes hollowed to shorten the bore for the shaft hole. This is not the case here, as the stone is so flat as to render unnecessary any hollowing, which would only have weakened and lightened the axe, and thus have made it a less effective weapon. The shaft hole is 1¼ inch long, that being the greatest thickness of the stone. The relic measures 5¾ inches long, by 3½ inches in greatest width. The larger edge is 2 inches long, and the smaller 1½. The surface is smooth, but I do not think that the stone has been artificially ground. It is a water worn pebble from the bed of a stream, selected on account of its being nearly of the requisite shape. It is a dolerite, similar to what frequently appears in central Scotland, and may have been selected by the rude artificer from any of the streams in the immediate vicinity. A narrow vein of harder mineral runs through the stone near the centre, standing slightly above the surface. This is caused by the harder mineral having resisted the wearing action of the stream more successfully than the less hard surrounding parts. If the stone had been artificially ground it would have shown a smooth surface without any such ridge. The edges of the axe are very roughly constructed. At one end we find that a series of chips has been driven off the stone from one of the flat sides, thus making a rude, one sided edge. At the other end the same process has been repeated, only the chipping has been performed on the other flat side of the stone. The workmanship of the edges of the axe strikes one as being so rude com-

pared with the beautiful circular hollowing of the shaft hole as to suggest that originally the ends of the stone were left blunt. The edges, such as they are, were never meant to be used for cutting. The axe weighs 1 lb. 7 oz., and must have been a deadly weapon in the hands of a strong man, being light enough for effective use and heavy enough to inflict a fatal blow. Stone axes are sometimes ornamented by incised lines on their surface. There are certain lines on the specimen now before us, but I do not think that they are attempts at ornamentation. They look as if made at the same time as the rude chipping of the edges was performed. The relic probably belongs to the Stone Age, bnt it is impossible to speak with certainty, as we know that stone implements were in use during the Bronze Age, and even to some extent in the Iron Age.

STIRLING

NATURAL HISTORY

AND

ARCHÆOLOGICAL SOCIETY.

TRANSACTIONS, 1894-95.

STIRLING:

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1894-95.

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STIRLING NATURAL HISTORY AND ARCHÆOLOGICAL SOCIETY.

The annual business meeting was held within the Y.M.C.A. Rooms, Allan Park, on Tuesday evening, the 23rd October—the Rev. Mr Goldie, president, in the chair. The minutes of last meeting having been read and sustained, and several new members elected, Mr Morris read the annual report of the joint secretaries, which was adopted on the motion of Mr Moyes. The treasurer's report, read by Mr Daniel Ferguson, was adopted on the motion of Mr Lowson. The office-bearers for the ensuing year were then elected as follows:—Honorary presidents, Sir James Maitland, Bart. of Sauchie; Colonel Murray of Polmaise; Colonel Stirling of Gargunnock; president, Rev. W. F. Goldie; vice-presidents, Dr Galbraith, James Todd; joint secretaries, Robert Kidston and David B. Morris; treasurer, Daniel Ferguson; librarian, James Sword; auditor, John Allan; members of council, J. W. Campbell, James Ronald, Alexander Moyes, Gilbert M'Dougall, George Lowson, W. L. Shirra. Mrs Hogg then read a paper on "Sir John Dinely; a Romance of Stirling and Windsor." A vote of thanks was given to Mrs Hogg, on the motion of Mr Shirra. The Secretaries' report is as follows:—

The past session has been one of steady effort on the part of the members, and progress in the work of the society. Ten papers have been read. Of these four belonged to the department of Natural History, and six to that of Archæology and local history. All were of local interest and by members of the society. Some of these contributions were very exhaustive in their several departments, and the published volume of the year's transactions is consequently the largest yet issued. The collection of specimens is now of considerable extent, and reflects credit on the members who have devoted special attention to the work, and also on the

society to which the collection belongs. The excellent paper of Mr Sword on the Bird Collection in the Smith Institute, read at the April meeting, is an illustration of the great help which a well selected and thoroughly classified collection of specimens gives in the study of a particular subject. At various meetings of the society, members showed interesting exhibits, illustrating botanical and archæological subjects. Members are recommended to bring with them to the meetings objects of interest which may be in their possession, so that the pleasure and profit to be derived from the examination of such may be shared by all the members present. By doing so, the purpose of the society may be forwarded with a comparatively small amount of trouble. On two matters of public interest the society has taken action during the past year. In January the council was successful in obtaining from Government a grant of sixty-seven volumes of the publication of Her Majesty's Record Office. These are located in the Macfarlane Library of the Smith Institute for the public use. A list of the books will be found at page 79 of the Transactions for 1893-94. At the February meeting, Colonel Stirling of Gargunnock was appointed to represent the society on a committee constituted at the suggestion of the Royal Scottish Geographical Society, for the purpose of laying before Government the desirability of equipping an expedition for scientific research in the Antarctic regions. There are at present 66 members on the roll of the society and 13 lady associates.

The following is the Treasurer's report :—

INCOME.

Balance from last Account,	£7	7	8
Annual Subscriptions received,	11	4	0
Transactions sold,	3	11	0
	£22	2	8

EXPENDITURE.

Paid Printing Accounts,	£6	14	1
Paid Stationery Account,	1	4	0
Rent of Room for Meetings,	0	18	0
Paid ex-Bailie Ronald towards expense of illustrating his paper on "The Parish Church of Stirling,"	1	5	0
Paid Messrs M'Farlane & Erskine, Lithographers, Edinburgh, the Society's proportion of expense of Transferring, Proving, Paper and Printing Copies of Illustrations for Mr A. F. Hutchison's paper on "Standing Stones,"	3	18	6
Balance at Credit of Society in National Bank,	8	3	1
	£22	2	8

Mrs Hogg then proceeded to read the following paper :—

SIR JOHN DINELY: A ROMANCE OF STIRLING AND WINDSOR.

I pray you not to imagine that the short biographical sketch which I am to lay before you to-night, is a specimen of the pabulum which your secretary has arranged for your delectation during the winter. I am but a stop-gap, or, as it were, a light skirmisher to clear the ground for the "big guns" which Mr Morris will bring up by-and-bye. I have christened my story "A Romance of Stirling and Windsor," not the first time the two royal residences have been associated. Stirling certainly does not bear the proud title of the Windsor of Scotland—that distinction is, I believe, claimed by Linlithgow: but it was to his citadel on Stirling's Rock that our James I. came straight from his prison palace on the banks of Thames, and although it is a far cry from the Poet-King of Scotland to Sir John Dinely, the eccentric, poverty-stricken, English baronet, there is yet between them a touch in common, for in the palace-fortress where the captive Scottish monarch spent the years of youth and early manhood, Sir John Dinely wore out the last years of his troubled, wasted life as a pensioner of the Knights of the Garter, finding a last resting place under the shadow of the Royal Chapel of St George.

But who was Sir John Dinely? The answer comes from many sources—from "Anecdotes of the Aristocracy" by Mr J. Bernard Burke; "A Guide to Health, Beauty, Riches, and Honour," by Captain Grosse, published in London in 1796, while Sir John Dinely was still alive; from "English Eccentrics" by John Timbs; from Charles Knight's "Recollections of Windsor"; and from Walford's "Histories of the English County Families." To the last I am specially indebted for information regarding the subject of my sketch. Not one, however, of the writers I have mentioned seems to be aware of the Scottish episode in Sir John's career, or if they were, no mention is made of it. Dr Rogers, in his "Week at Bridge of Allan," gives the fullest information we have of his doings on this side the border. When Dr Rogers wrote in 1853, there were those still alive in the burgh who remembered Sir John; but in the course of forty years all these have passed away. Even to the late Mr Mouat, to whom I applied for information, he was but a tradition; he knew there had been such a man but nothing more. From the

sources I have mentioned, supplemented by extracts from the Burgh and Guildry and Sasine Records, I have pieced together as consecutive a narrative as possible, of the history of the English eccentric who lingered for the space of fourteen years in our town and contributed in no small degree to the amusement of Stirling society one hundred and twenty-six years ago.

The Dinelys, of whom Sir John, the hero of my story, was the last head and representative, were, says Mr Walford, "a worthy and respectable family who long held landed estates in Worcestershire. The head of the family in the reign of Queen Anne having sat for many years as member for Evesham and afterwards for Herefordshire, was created a baronet in 1707 for his political services." An only daughter by her marriage with the heir of the Goodyeres of Burghope in Herefordshire united the two families, and their heirs and representatives were henceforth known as Dinely-Goodyere-Dinely. They had for generations lived the quiet uneventful lifes of English county gentlemen, lives without stain or reproach, when the sad event occurred which destroyed the family root and branch, and sent the heir to the estates a beggared wanderer over the face of the earth.

Towards the end of January, 1741, the newspapers of the day announced in their quaint phraseology that "a tragedy in high life" had occurred at Bristol. The gist of the story, as narrated by Mr Walford, is as follows :—"On the 17th of that month Sir John Dinely-Goodyere-Dinely, Bart. of Burghope and Charleton, happened to be staying in the neighbourhood, either of the "Hot Wells" or at Clifton. Owing to a family dispute about property, he was on bad terms with his brother and heir, Samuel Goodyere, captain in command of a vessel named the "Ruby," then lying in the Roads at the mouth of the Avon. A mutual acquaintance of the brothers who lived in the neighbourhood invited the two to dine with him in hope that the meeting might pave the way for a reconciliation. This hope seemed likely to be realised ; the brothers met and parted in the most friendly way with mutual expressions of goodwill, the elder bidding the younger "goodnight," and adding that he should be glad to see him again soon. Lingering a little longer with his friend, Sir John at last bent his steps to his lodgings. When crossing College Green, the large square under the shadow of the Cathedral, he was suddenly confronted by six sailors all armed with cutlasses and pistols, with his brother Samuel, the captain of the "Ruby" at their head. The odds were

overwhelming ; the unsuspecting man was seized, gagged, and carried off to the riverside, where a boat was moored in waiting. As soon as he was on board, the men rowed down the Avon to their ship, Sir John was hoisted on board, and then cruelly strangled by two sailors named White and Mahony, acting under the orders of their captain, Samuel Goodyere."

But the vengeance of the law, it is added, " was both speedy and sure. The vessel was detained on suspicion, and the fratricide, now Captain Sir Samuel Dinely Goodyere Dinely, was tried with his two accomplices at Bristol, in the following month of March. There he was sentenced to death within three months of the cruel and unnatural murder. There was nothing to plead in his defence, and the case was too notorious for any effort to be made by influential friends to secure a respite from the King. His estates were forfeited to the Crown, and his wife and children were reduced to beggary."

The elder son, Edward Dinely, died a lunatic, in 1761, and the younger son was the Sir John Dinely of my sketch. He was probably about thirteen years of age at the time of his father's execution.

Beggary is, however, a comparative term. Something must have been saved to Lady Dinely from the wreck of her husband's fortune, sufficient at least to educate her boys. The younger, in any case, studied medicine, and according to Dr Rogers, attempted to practice as a physician. A professional career offered, however, but small chance or opportunity of retrieving the fallen fortunes of his house, and this Sir John Dinely had set himself to accomplish. Why not marry money ? He had birth and rank, why not ally them to wealth ? A well endowed wife seemed a very feasible way out of his difficulties. He had dreams, says Mr Walford, " of ancient genealogies, and of alliances still subsisting between himself and the first families in the land, and of mansions described in Nash's History of Worcestershire, with marble halls and superb gates, and of possessions that ought to be his own, and which would place him on an equality with the noblest and wealthiest. A little money to be expended in law would turn all these dreams into realities. That money was to be obtained through a wife, to whom in exchange, he would give the title of 'My Lady.' With this view he frequented the haunts of fashion where ladies most did congregate ; he advertised in the principal newspapers and he circulated handbills stating his wishes and requirements. His method was to avoid tittering school girls, but when he saw a likely widow or unmarried lady, he would

approach, make a courtly bow, and present a handbill retiring himself meanwhile to a little distance to watch the effect it produced." And, adds his biographer, "to do poor Sir John Dinely justice, there was not a particle of levity in all his proceedings. They were terribly real to himself at least." His face is described by Charles Knight as "grave and intellectual in character, and his deportment staid and dignified."

The following is a specimen of his matrimonial advertisements :—

FOR A WIFE.

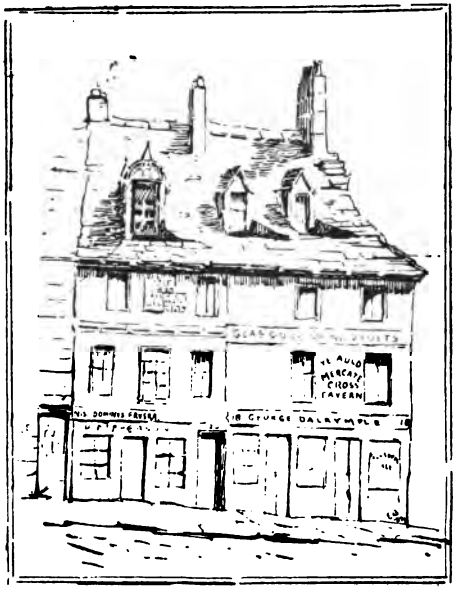
As the prospect of my marriage has much increased lately, I am determined to discover the lady most liberal in her esteem, by giving her 24 hours to make her quickest steps towards matrimony from the date of this paper until 11 o'clock the next morning, and as the compact will evidently be the most superb, honourable, sacred, and lawfully affectionate, pray, ladies, do not let false delicacy interrupt you. An eminent attorney here is lately returned from a view of my superb gates before my capital house, built in the form of the Queen Anne's house. I have ordered him, or the next eminent attorney here, who can satisfy you of my possession in my estate and every desirable particular concerning it, to make you the most liberal settlement you can desire to the vast extent of £300,000. He concludes with some verses, of which the last lines run thus :—

"A beautiful page shall carefully hold
Your ladyship's train surrounded with gold."

In one of his handbills referring to his father's crime and the forfeiture of the family estate, he says —"Pray, my young charmers, give me a fair hearing; do not let your avaricious guardians unjustly frighten you with a false account of forfeiture."

For many years poor Sir John wandered up and down England in vain pursuit of this 'Will-o'-the-wisp.' At last, tempted by fate, he crossed the border—perchance Scottish maidens and widows might have softer hearts, if smaller fortunes, than their Southron sisters. The Glasgow ladies, however—or was it their fathers and kinsmen?—proved obdurate. The canny merchants of the Trongate, who were building up the commercial greatness of their city and laying the foundation of princely fortunes, were not at all likely to listen favourably to the suit of a crack-brained English adventurer, even though he claimed descent from the Plantagenets, and the lawyers of fair Edina were equally hard to please, so one day, in the spring of 1768, Sir John Dinely arrived in Stirling to try his fortunes among the daughters of the Rock. He came, apparently, with the intention of

settling, for his first performance after his arrival in the town was to purchase, in March, 1768, a residence. We learn incidentally from a discussion at a meeting of the Guildry, convened to consider a subsequent application of his to be made a Guild brother, that he paid one hundred and ninety two pounds down for his purchase.



Sir John Dinely's house, as the illustration shows, is that picturesque building in Broad Street which stands immediately below the Long Close. It is the most 'forward' house in the street, projecting nearly a couple of feet beyond its neighbours to right and left. It is further distinguished by its peculiar roof, one half of which is pitched at a very steep angle while the second half slopes more gradually to the eaves. It seems either to have been entirely rebuilt on the site of an older edifice, or, what is more probable, to have been restored in the year of the first Jacobite rising, as shown by the date, 1715, which with the initials of the owner and his wife, I. B. K. M., are carved on the

front. It is further adorned with Latin inscriptions after the quaint taste of the period, *Nisi Dominus Frustra* carved over the doorway, and the challenging motto, *Hic parta, hic maneat*—"Here we have built (the house) here let it remain," between two of the upper windows. In addition, a beautiful sundial occupies the upper corner on the east front of the building, which is of much older date than 1715. It is spoken of in the Burgh Records so far back as the middle of the 17th century, and probably ante-dates the Broad Street clock itself. On a representation made by ex-Bailie Ronald to ex-Bailie Dalrymple, Glasgow, the present proprietor, who, since he came into possession of the property has done much to improve it, the dial has recently been restored to its ancient glory. Once more it silently tells the passing hours, as it has done for, who can say, how many hundreds of years. It may be remarked in confirmation of the view that the house belongs to a much older period than the sculptured date on its front—that when the repairs referred to were being made on Bailie Dalrymple's accession to the property, a number of old coins were found hidden away between the roof and the ceiling of the upper storey. Among these was a curious brass medal, some three inches in diameter, having the Paternoster engraved on the one side, and the Creed upon the other. This interesting relic, with the coins, are now in Bailie Dalrymple's possession.

Having secured for himself a local habitation, Dinely's next step was to make application to be admitted as a Guild Brother. He seems to have spread abroad the idea that he had been extensively engaged in some sort of business before coming to Stirling, and that when he was made free of the town he meant to prosecute the same. On the other hand suspicions seem to have been entertained by the more cautious of the burgesses as to Sir John's *bona fides*. Commissary Finlayson at the meeting of the Guildry convened to consider the application, gave voice to these suspicions that "he was a Jesuit or trafficking priest," and at the same time warned the Guild Brethren that such had been declared "enemys to the Constitution." It must be remembered in the Commissary's defence that the echoes of Prince Charlie's cannonade of Stirling Castle had hardly died away, that both Jacobite risings had been worked and financed from France through Jesuit priests as emissaries, that all through the Stuart reigns, from the great Rebellion downwards, the very word "Jesuit" was synonymous with "plotter" and

"traitor," and that the statute of William and Mary, from which the words used by Commissary Finlayson were quoted, was still in force. Before quoting from the Guildry records, which tell the whole story, it may be remarked parenthetically, that in his transactions with the Guildry and Town Council, Sir John dropped his title, assuming the name of "John Barronet" by which he is entered on the Registers, the qualifying expression "or such person now called," being added to the property conveyance.

Court of the Guildry of Stirling held in the Guild Hall the twenty-sixth day of March, seventeen hundred and sixty-eight years, by Nicol Bryce, Dean of Guild. In presence of sundry of the Magistrates and Gild Brethren.

Court lawfully fenced.

Bill of Entry, John Barronet:—Same day Anent the Bill of Entry given into Court this day, By John Barronet, Residenter in Stirling, Craving to be admitted a Gild Brother of said Burgh, and offering to pay the dues accustomed for his Entry. Upon reading of this Bill, Commissary Finlayson, Gild Brother, out of regard to this Burgh and Guildry thereof, of which he has the honour of being a Member, Protested that as the said John Barronet was an entire stranger and altogether unknown to the Court and the inhabitants of the Burgh, and by many suspected to be a Jesuit or trafficking Priest, His bill ought to be rejected, at least not proceeded in, until *Primo*, That he satisfied the Court as to his way and manner of life for some years past at least, and produced proper certificates thereof, and of his moral character from the place he last resided in for the space of a year or a half-year or so. It was not the riches alone that he pretended to, that was the only qualification of a Gild Brother, for these may be acquired by many evil ways, unless these be joined with a good moral character, which is the principal qualification of a man for civil society. And *Secundo*, Until he removed the suspicion of his being a Jesuit or trafficking priest, such persons being declared enemys to our constitution, both of Church and State. By taking and subscribing the formula prescribed by law, which, if he be not a person of these characters he could have no hesitation to do, and if he be a man of a good and moral character he could have no difficulty of procuring proper certificates thereof, and all these within the space of one month of this date, which is the time

appointed by the laudable laws of the Guildry for strangers bills of entry to lye on the table. That in that space the Guildry might have proper information of the character of the person applying to be entered, both as to his morality and otherwise, and examined the same, and thereon took instruments in the Clerk of Courts hands.

To which it was answered by John Forrester, Guild Brother. That the principal qualifications necessary to intitle one to be entered with the Guildry of this burgh is his age, which is not objected to. Next, that his stock be three thousand merks Scots, as to the last, he very lately purchased property in this town to the extent of one hundred and nine-two pounds sterling, and paid the same down in ready money, and has been seen possesst of cash to a greater extent than that, and has been in and intends carrying on a very extensive trade, so that there was no necessity for allowing his bill to lye on the table a month, as there are recent precedents to this purpose in such circumstances. And as to the story of the Jesuitism, the Clerk at writing out his Bill this morning caused Read over the formula when he said he was born and bred a Protestant, and would swear and subscribe to that oath whenever required, but this Court is not competent to it, therefore he ought to be immediately admitted. Thereafter the vote being put to allow the said John Barronet's Bill to lye on the table or not, it was carried by a majority not to lye, the Guildry finding him qualified. But before admission remitt him to be sworn as a Burgess of the Burgh in the Town Council as usual.

(Signed) NICOL BRYCE, D.G.

Eodem die. In presence of the Dean of Guild and Sundry of the Magistrates and Guild Brethren. Convened in a Guild Court in the Council Room anent the Bill of Entry.

Given in this day by John Barronet, craving to be admitted a Guild Brother, it being represented that he had been this day sworn as a Burgess in the Town Council. The Guildry, therefore, receive and admit him a Gild Brother of this Burgh, and he being present, made faith as use is, and paid the Treasurer two hundred and four pounds Scots money, and four pounds like money of officer's fee as usual.

(Signed) NICOL BRYCE, D.G.

The following extract from the Burgh records confirms the last entry.

26th March, 1768.—The Council receive and admit

John Barronet, late in Glasgow, now in Stirling, to the liberty and freedom of a Burgess *qua* Gild Brother of this Burgh, and he being present, made faith as use is, and paid the Treasurer Thirty-four pounds Scots as the dues of his Entry.

(Signed) NICOL BRYCE, D.G.

Having established himself as a free citizen of Stirling, and purged himself of all suspicion of complicity with Jesuits and their works, Sir John now turned his attention to the structural embellishment of the dwelling he had just acquired. The story of the roof - garden he devised, where he could at once enjoy the air and the humours of the street beneath, with its wonderful combination of gooseberry bushes and pond of gold fish, as well as of the catastrophe which led finally to his disposal of the property, is it not one of the legends of the Broad Street? Desirous of ascertaining how much of the story was truth and how much fiction; also, if any light could be thrown upon the initials on the front of the building, I applied to Bailie Dalrymple, who, through his lawyer, kindly supplied me with excerpts from the title deeds. These, however, do not go back further than April, 1770. We learn, incidentally, that Barronet purchased the house from William Christie, jun., merchant and dyer in Stirling, but the titles begin—as will be seen from a digest of the documents, which, with excerpts from the register of Sasines, are given below—with two conveyances from John Barronet to Mary Baird and John Alexander, of the shop on the ground floor and of the first storey of the building respectively, the fore garret, "converted since my purchase into the balcony tenement," being retained by Sir John in his own possession for nine months longer, when he disposed of it to Colin M'Leran, proprietor of the second or upper storey and the back garret. The roof-garden resolves itself into a balcony or terrace, with lead roof, to which access was gained through the windows of the fore-garret or balcony-room, and which was protected from risk of accident by wooden or iron rails towards the street. Whether Sir John caused soil to be carried to the balcony, or contented himself with planting his gooseberry bushes in boxes, cannot now be determined. From the obligation laid upon his successors as to the "repairs of the roof below the windows of the balcony-room," it is, however, quite evident that a catastrophe of some kind befel the bold gardening experiment. With regard to the back terrace spoken of, it is difficult to understand where

it could have been placed, unless it refers to the "fire room with pantile shade," which was doubtless another of Sir John's improvements. The documents, besides covering the three years of his proprietorship, give interesting glimpses of his neighbours in the Broad Street. Far transcending, however, the interest of Sir John's brief connection with it, are the claims of the house itself. It is undoubtedly one of the most curious buildings in the Broad Street, offering problems which only archæological experts, such as Bailie Ronald, can solve.

DIGEST OF TITLE DEEDS, &c.

Sir John Dinely's title to the Broad Street property is a Disposition granted by "William Christie, Jun, Mert. and Dyer in Stirling," in favour of "John Barronett, late of Glasgow now of Stirling, or such person now so styled." Sasine followed on this Disposition 21st January, 1768. In the Sasine the property is described as "All and Heall These the said William Christie's parts and portions of All and Whole That great building or Tenement of land, high and laigh, back and fore and back closses and houses thereon, lying opposite to and a little below the cross of Stirling on the North side of the high Street. To Witt That shop on the east side of the closs, lately possesst by Alex. Christie, Mert., & now by Edward Christie his brother, also the dwelling house above the said shop consisting of four rooms and kitchen with the closes presses and other fixed work, and kitchen chimney & other pertinents thereto belonging, Together with the cellars and brew house as lately possesst by Nicol Bryce, Maltsman and likeways the forges and other houses built on the back closs, and Also that fore garrett immediately above that storey of said tenement belonging to Colin M'Leran, Mert., Together with the passage, back closs, well, yards, and vacant ground Betwixt the fore tenement & the extremity of the brick house to the North on the East side of the said closs or passage and whole pertinents." Baronet is taken bound to "maintain in repair one half of the roof above the said fore garret, and three fourths of the roof above the back garrett belonging to the said Colin M'Leran." It would therefore appear that Barronet acquired the shop on ground flat, the first storey, and the fore garret of the tenement, while the second storey and the back garret continued to be the property of Colin M'Leran. When a tenement of houses belonged to different proprietors, the duty of maintaining the roof fell upon all the proprietors jointly, and it was customary to insert in

the titles the proportion of this obligation which fell upon each. There are still a number of cases of such joint proprietorship in Broad Street and Bow Street.

In April, 1770, Baronet sold the shop on the ground floor to Mary Baird, and the first storey, together "with a stable, fire room, and with pantile shade, &c., to John Alexander. The Sasine in favour of Alexander is dated 21st April, 1770. In the dispositions in favour of these parties, Barronet put upon them to the extent of one half each the whole obligations incumbent on him, to maintain the roof, even though he still retained part of the property. The part retained is described as "the foregarret, which foregarret since my purchase was converted into the foresaid balcony tenement." To the usual obligation as to the roof, there is added in both Dispositions the following clause, which is quite unique, "Provided always that such repairs shall be made on that part of the roof below the windows of the balcony room and be kept below said windows so as not to lessen the light of said room, but if thought proper by the said John Alexander and Mary Baird, tyles or slates may be put on in place of the lead roof fronting said room. The lead always remaining the property of me and my heirs or assignees as proprietors of said balcony room. The outer rails being always preserved and to remain as at present.

On 29th January, 1771, Baronet sold his remaining interest in the property to Colin M'Leran whose name has been mentioned. The sasine in favour of M'Leran is dated 31st January, 1771. The balcony is thus described in the legal phraseology of the sasine, "All and Heall that the said John Baronet his balcony and its room with elegant sashes and papered closets with the back and fore terraces freed of out covered repairs and calculate for preserving health, and servant's room above all secured with double doors being part of that tenement of houses, &c. &c." Baronet must surely have had a hand in the framing of this description.

In 1770, while still living in Stirling, Sir John narrowly escaped falling into the noose matrimonial. The story is told by the lady herself in a Renunciation and Discharge, which she granted on payment of £10, and which is preserved in the Register of Sasines. From this discharge it would appear, that accompanying Barronet, as he is styled, to Edinburgh, to save appearances, she induced him to allow her to call herself his wife, although she acknowledges that "there was never any promise of marriage or any such thing as marriage between us." She was after-

wards prevailed upon to bring a process of Declarator of Marriage before the Commissaries of Edinburgh against Sir John, in which process she failed. In a subsequent process for damages, which she was advised to bring before the Commissaries, at the instance of her father and herself, she was more successful, obtaining decreet in absence against Barronet for £500 sterling. On this decreet, Sir John's effects were seized, but Elizabeth Thomson never received any part of the pounded goods, for Sir John retaliated with a process of Reduction of the decreet which had been obtained in absence. After various steps of procedure, the Lord Ordinary pronounced an interlocutor, reducing the damages to £15 sterling. It was competent to both parties to appeal against this decision, but in order "to end all disputes and put an end to all questions" Elizabeth Thomson finally accepted ten pounds and signed the document from which I have quoted.

In 1771, Sir John left Stirling for some years, to re-appear again in very impoverished circumstances. So poor was he, in fact, that as a decayed burgess and Guild Brother, he preferred a claim to be pensioned from the funds of Cowane's Hospital. The claim was allowed, and until 1792, when he left Stirling finally, he enjoyed a weekly dole of two and sixpence from Cowane's funds.

During this period his appearance and garb when he took his walks abroad, as recorded by Dr Rogers from the lips of contemporary eye-witnesses, were sufficiently remarkable. "Arrayed in a costume consisting of velvet vest, satin breeches, and silk stockings, with a scarlet cloak thrown over to conceal their faded and tattered aspect, his feet generally protected by a pair of high timber pattens, and his hat and wig secured to his head by a large cotton handkerchief tied under his chin, he sauntered daily along the Back Walk, paying his courteous *devoir* to every female who would good-humouredly address him. As none of the sex was too young for his admiration, a train of very young misses was not unfrequently attending him, listening to his sighs and smiling at his foibles. He knew each beauty of the district by name, and kept a catalogue, in which their names were entered according to his estimate of their charms."

Besides this, we have one other glimpse of Sir John during the fourteen years in which he enjoyed the meagre bounty of Cowane's Hospital. It is in a Guildry minute, dated 27th January, 1786. History, it is said, repeats itself. An Endowments Commission and an Educational Trust were still in the

dim and distant future, yet even then, with every penny of the income of the Hospital expended on pensions, there was dissatisfaction, and at the date I speak of an action was depending in the Court of Session at the instance of James Morrison and other pensioners, against the "Mode of Management of the funds of Cowane's Hospital." The pursuers were most ungallant persons, with whom we can have no sympathy. Their grievance was, that pensions were granted to widows and orphans of decayed Guild Brethren, instead of confining the benefits to the brethren themselves, and in granting such pensions they held that the Patrons were acting illegally. At a former meeting of the Guildry a Committee had been appointed to consider these complaints and to enquire into the Management and report, so that if necessary the hands of the Patrons might be strengthened in defending the action. The report enters into the question at considerable length, and finds that there is no ground for complaint. It then certifies what is known with regard to the prosecutors and each of them separately There are eight of them in all. James Morrison, the leader of the band, and the one moneyed man of the eight, is also the only one who has been an actual trader. He is said to be possessed of heritable subjects in the town, and is, as far as the Committee know, free from incumbrances, yielding him above £20 yearly.

As to the second, John Dinlay—the Committee know of no Guild Brother in Stirling of that name.

"There was a stranger came here some years ago, who boasted of his opulence, and called himself 'Ready Money.' He got acquainted with some of the Guild Brethren, and applied to be admitted a Brother under the name of John Barronet, and in a frolic in the first meeting (and a very thin one it was) was admitted by the casting vote, contrary to the established rules of the Guildry, for his Bill of Entry ought to have lain a month, as his admission was protested against. He soon after left the place, and was not heard of for years, but coming back and complaining of poverty, got a weekly allowance from the Hospital, and this is probably the John Dinlay of the summons."

"The seventh," it goes on to say, "is Thomas Gilfillan, entered a Guild Brother by his wife, but is *non compos mentis*, said to be got from a fall from a horse, and though an object of charity is no proper judge of what he is about. The last of them, John M'Killop, is much in the same state as to capacity, and both of them seem to have been drawn in

by this John Dinlay and his confederates, especially James Morrison, who, it is said, has advanced the expenses of the prosecution hitherto."

In 1771, Sir John left Stirling for good, and the scene changes to the royal borough of Windsor, where the closing years of his life were spent. "At the beginning of the present century," writes Mr Walford, "there were two living objects of curiosity at Windsor; the one was the good old farmer King, George III., who, till laid aside by mental and bodily ailments, used to walk along its streets and converse on the Castle Terrace regularly, to the great delight of his subjects; and the other was one of the Military Knights, or as they were then called, the Poor Knights of Windsor, a certain landless and almost penniless baronet, Sir John Dinely, a man of eccentric dress and mien, who had found in the Lower Ward, through those who had known him in better days, a refuge from the storms of life. Anchored in his little two-roomed house, and passing rich on £60 a year, he was the better able to keep the wolf from the door, that he had not a servant or even a charwoman to wait upon him. He would go out early in the morning after carefully locking his door, and walk down through the castle gate into the market place, whence he would return laden with a penny roll, a pat of butter, a small bundle of firewood, and possibly a herring, taking care to return to his rooms and dress in time for the service in St George's Chapel, which the poor knights were bound to attend, by the statutes of the order of the Garter. No sooner, however, was the service over than he would go back to his room, throw off the blue cloak of the pensioner, and come out attired like a butterfly." Whenever Royalty took its walk in public, or the sounds of military music brought together the fair ladies of Windsor, there appeared Sir John Dinely, radiant in embroidered coat, silk-flowered waistcoat, the tawdry and faded nether garments meeting the dirty silk stockings, half-polished shoes adorned with silver buckles and clasps, freshly powdered wig, and cocked hat with tarnished edging of lace. "And so the old beau stepped proudly along the streets and terraces of Windsor still pursuing the dream of his life, cherishing, even at fourscore, the expectation of marriage with a lady of property."

But the end came at last, the concluding scene of this poor pitiful history. One morning in the year 1808, Sir John Dinely was missed from his place at service in St George's Chapel, and on inquiry it was found that he had not been seen

sallying out that day as usual to buy his penny roll and farthing candle. His door, which was fastened inside, was burst open, his house which he had never allowed a creature to enter was found to be almost destitute of furniture, except a deal table, a couple of chairs, and a pallet bed. His sitting room was strewn with type from a printing press at which he set up and worked off his matrimonial circulars. He lay in the inner room stretched on his bed, apparently in a dying state. He lingered only a few days and died—after all his projects and efforts matrimonial—a bachelor, and with him died the baronetcy of Dinely.

I have to express my indebtedness to Mr Galbraith, and to Mr MacLuckie for allowing access to the Town Council and Guildry Records, to Bailie Dalrymple and Mr Lucas, solicitor, Glasgow, for excerpts from the title deeds of the house in Broad Street; to Mr D. B. Morris who kindly prepared a digest of these documents; and to Mr Edmund Baker for the clever sketch, in black and white, from which the illustration of Sir John Dinely's house is reproduced.

The usual monthly meeting of the Society was held in the Committee Room, Y.M.C.A. Institute, on Tuesday evening, 20th Nov.—the Rev. Mr Goldie, presiding. The minutes of October meeting having been read and approved of, the Chairman introduced ex-Councillor Small and Mr Gilbert MacDougall, who respectively submitted papers on "Examples of Mural Decorations in Scottish Houses of the 17th Century," and "Notes on the Conchology of Perth South and Clackmannan." Mr Small's paper was illustrated by coloured drawings of examples of mural decorations executed in distemper on the old hall of Blairlogie Castle discovered in the course of recent alterations; of similar decorations in Culross Palace; in Dalcross Castle near Inverness; the Bishop's Palace, Elgin; at Linlithgow in an old house of 1750 date; in Nunraw House, East-Lothian; Pinkie House, Earlshall, Collairnie in Fifeshire; and Stobhall, Perthshire; Craigmillar Castle; Elphingstone Tower; Balbegno Castle, and in the Antiquarian Museum, Edinburgh. In continuing his record of the land and water shells of this Vice County — Perth South and Clackmannan — Mr M'Dougall reported that he had added to his list of

38 species—recorded and described at the December meeting of the Society in 1892—22 additional species, specimens of which were laid on the table for examination. In all, a total of 60 species have been collected within the vice-County, 38 of which have already passed through the Recorder's hands and found to be correct. At the close, a hearty vote of thanks was passed to both gentlemen on the motion of Mr D. B. Morris, who remarked that the papers submitted on Tuesday night fully justified the title rôle of the Society—one having dealt with an Archaeological, the other with a Natural history subject. Mr Morris also moved that Mr Small be requested to allow his drawings of the decorations at Blairlogie Castle and at Culross Palace, which were locally interesting, to be reproduced and published with the transactions. This Mr Small kindly agreed to do. A vote of thanks to the Chairman concluded the business. Mr John Shearer, on the recommendation of the Council, was unanimously elected a member of the Society.

NOTICE OF EXAMPLES OF MURAL DECORATIONS IN OLD SCOTTISH HOUSES OF THE SEVENTEENTH CENTURY.

(By Mr J. W. Small.)

About a couple of years ago, when the old castle of Blairlogie, in our neighbourhood, was undergoing some repairs, the old roof of the hall, or principal room, was brought to light, the square oaken beams, which supported the floor above, were found to be covered on their three sides with paintings of various designs in distemper color, and as they are again covered up with a wooden ceiling, I thought a notice of them would not be an unwelcome contribution to our proceedings. The beams were roughly squared, and measured less and more, about six inches each way, and the three sides of them were covered with distemper paintings, in six designs of various colorings.

No 1 design is an adoption of the guilloche ornament on a brown ground, the ornament is outlined in black, the circle at the intersection of the bands are coloured red, while the bands themselves are dotted with spots in green, and in each of the spandrils next the outside edges of the beams is a circular dot of red.

No 2 is an ornament one can hardly name but I would venture to call it a chain pattern, the ground colour of this is white, the flat oval loops of the chain

are yellow colour with a circular white lobe hanging to each side inside the loop, the loops are detached, and are attached with a small oblong tie in white, all these are outlined in black.

No. 3 design is also on a white ground, and the ornament is composed of a repeat of two *fleur-de-lis* in yellow, outlined in black; the space between the first and second being filled up with a half of an eight-leaved star in blue, and three small circles in yellow, outlined in black; the space between the second and third *fleur-de-lis* being occupied by six irregularly placed circles in red, outlined in black.

No. 4 design is a conventional treatment of the pear, rather elongated specimens of this fruit run up the centre of beam of a brown colour outlined, and shaded and marked in black, the rest of the beam is coloured in blue, with black lines thereon to indicate leaves.

No. 5. This design is the most elaborate of them all, it consists, on a white ground, of conventional representation of fruit, flowers, and leaves in yellows and blues, all outlined in black, with stems represented by a brown colour. There is no repeat of the ornament, these forms being continued in various combinations from wall to wall, and finished there with a white band and a brown line in its centre.

No. 6. This design is a repeat design, and is repeated every fifteen inches. Bands in red, with two whitish roundels thereon, outlined in black, run across beam every fifteen inches apart, between these stand what I take to be a conventionalised pot and flowers in yellow, blue, and green.

The same pattern does not come next each other, but all arranged so as to give you the impression that all are different. The designs have without doubt been done with the hand, not stencilled in as we do now, hence their quaintness and originality. We cannot get from mechanical efforts the beauty of handwork. This style of decoration was common to old houses of this period, and although we do not have very many remains, still, we have some left, and for the sake of comparison we will notice a few. In the old burgh of Culross in the building called the palace, of a similar date to Blairlogie, we have a "routh" of old decorations, in painted beams, and ceilings, and walls. The beams of ceilings are in this example like the Blairlogie one painted on three sides, with ceiling between filled up with paintings in one case, the ornamentation is like the No. 5 of Blairlogie, but with more red in the design, in another case the beams are painted in red with a white guilloche ornament up

centre, and a white line on each side. One of the rooms in the upper flour here is barrel-vaulted in wood, and covered with nine squares of allegorical figures and landscape, with inscriptions in black letter, one of the latter may be given :—

> Although the world the Verteous still despyse,
> Yet up aloft in spyte of them they ryse.

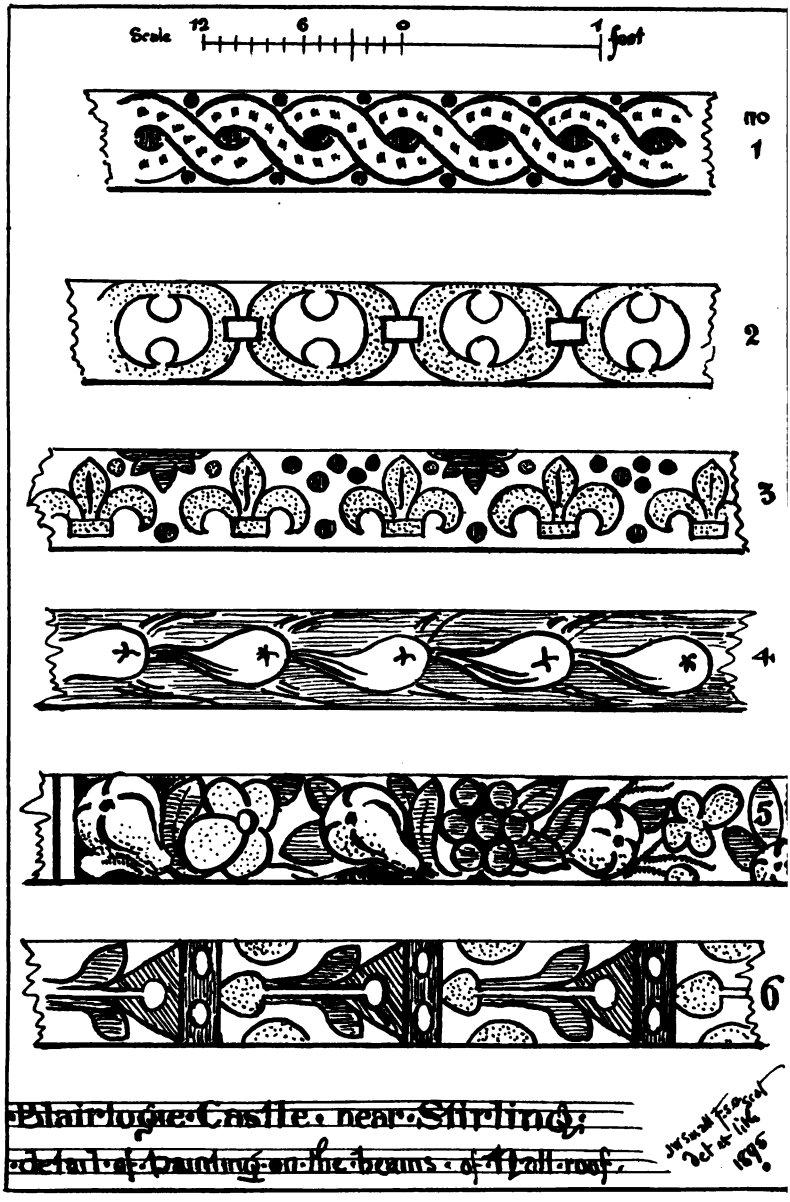
The walls of the east room, east building, is covered with painting, the dado is formed in imitation of a curtain hanging on the wall, above is a series of circles about fifteen inches diameter placed diagonally every thirty inches apart on a diaper of hexagonal stars and diamonds in various colours, the circles being filled with a guilloche ornament elaborately encircled, and with conventional representation of fruits and leaves all different. The west room of this building is also elaborately painted, the dado represents panelling in colour, the filling in above being a diaper ornament squares and circles filled in with minute ornamentation in white on coloured grounds.

We cite another example, but this is one in the far north, viz., Dalcross Castle, near Inverness, here the remains of the beams of hall and other rooms are all decorated on their three sides, in the same way as we have seen in the two preceding examples. We have here remains of a frieze running round a room, we have also remains of a pillared design in blue on walls of hall next dais, in the south window of hall here we also find the guilloche a favourite ornament, with flowers and fruit, and other running and repeat ornamentation, all painted in white, the ornaments outlined in black and filled in with colours in certain spaces. Here the beams of hall are large measuring eleven inches by ten.

In the Bishop's Palace at Elgin, an old building of 1577 date, but now in ruins we can see some remains of mural decorations on the walls of hall in black and yellow.

From Linlithgow comes the next example and this is from an old house of 1570 date, but now demolished. the beams in this case are painted blue, with the familiar guilloche ornament painted in black, while the ceiling between the beams is filled up with shields bearing the arms of the nobility of Scotland at that date, with their names on a band beneath each. Another ceiling from same house has the beams painted similar to this, but the ceiling spaces have only one shield and arm in centre, the parts on each side being filled up with renaissance ornament in various colours.

There is another very good ceiling at Nunraw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Blairlogie Castle, near Stirling.
Detail of Panelling on the beams of Hall roof.

House, East Lothian, where the beams are painted with the guilloche and other running ornament, while the space between is like the Linlithgow example, filled in with renaissance ornament, shields with arms, figures of cupids, animals, &c. We have another example of a ceiling from Mary of Guise's House, Lawnmarket, Edinburgh, now pulled down, but a record of this ceiling was kept by Mr J. M. Dick Peddie, architect, Edinburgh, and by his kindness I am enabled to exhibit his drawing of it. Here the beams were painted in a similar manner to these already mentioned, the guilloche forming a special feature on the beams, the ceiling between being filled up with foliated ornamentation and introducing birds, animals, &c., in browns, greens, and yellows, and all outlined in black.

MacGibbon and Ross, in their Castellated and Domestic Architecture of Scotland, says at page 435, vol. II., referring to the Culross examples I have already mentioned :—"This kind of decoration was not uncommon at the time both in form and colour. Of the coloured decorations there are good examples at Pinkie House, Earlshall, Collairnie, and Stobhall Chapel."

Of those at Pinkie House picture gallery they say :—"It has a curved ceiling of timber elaborately painted with mythical and allegorical subjects. In the centre panel are the Dunfermline Arms and the initials A.E.D, Alexander, Earl Dunfermline. The painting was continued down the walls, but was probably removed during alteration in the 18th century.

The examples at Earl's Hall House, near Leuchars, in Fife, is on the walls and ceiling of the withdrawing room, which occupies the whole length of the house, and is situated on the upper floor. The decoration is most elaborate, and is done in black and white. The frieze of this room is a series of arches with mottoes and wise sayings in each, the roof is covered with a diaper of circles and squares joined together with ornaments of the period, the squares and circles carrying representations of animals and coats of arms.

Of Collairnie Castle, Fifeshire, MacGibbon and Ross say—"The second and third floors have painted ceilings emblazoned with arms (a list of which occurs in Swan's History of Fife), and containing inscriptions after the manner of the ceilings at Earlshall, Pinkie House, and other places. They are now in a very neglected state, and will doubtless soon disappear." Let us hope some one has secured drawings of these before they go into oblivion. Since writing

this I have come across drawings of these ceilings by Mr J. M. Dick Peddie, Edinburgh, and am enabled by his kindness to show them here to-night. The beams are painted as we have seen before, and the same ornaments introduced, the ceiling between carrying shields and arms, with ribbon and name of owner of arms underneath each, and the space filled up with characteristic foliage of the 16th century, not unlike in form the foliaged enrichments of the Edinburgh ceiling.

Of the example from Stobhall, Perthshire, the same authors say—"The painted ceiling of the chapel is most interesting and beautifully executed. The ceiling is divided by four cross beams into five compartments. These compartments contain each two subjects of figures on horseback. Beginning at the end next the door the subjects represented are 'Rex Mauritunæ' (mounted on an elephant and having three Indian attendants); 'Prester John,' 'Rex Hungariæ, 'Impeator treary, 'Rex Sveviæ,' 'Rex Hispaniæ, 'Rex Magnæ Britanniæ,' 'Rex Poloniæ,' 'Imperator Germaniæ, 'Rex Galliæ,' and the Drummond arms, with the motto 'Gang warily.' Besides the above, each compartment comprises three foliated ornamental panels, and a panel at each end containing a painting of an animal. The ground of the ceiling is white, the king's horses and figures are painted in natural colours, the horses being black, brown, and grey. The panels have yellow borders, separated by dark lines. The three ornamental panels in each compartment have a green centre with leaves, roses, &c., outlined in a reddish chocolate colour. The sides of the beams have mostly green grounds and white ornaments. The bead moulding is coloured with blue and dull red ornaments alternately. In a compartment beneath is painted a row of caltraps (or cheval-traps)—spiked balls which were thrown upon the ground for defence against cavalry, with the appropriate motto 'Gang warily.'"

Various other examples of scraps of coloured decoration occur. At Craigmillar Castle, near Edinburgh, where the corbels which supported the beams of Hall are decorated with a star and drop ornament in deep red, while the soffet of the east window of Hall has been decorated with unicorns, the crest of the Prestons of Craigmillar.

In Elphingstone Tower, Midlothian, a few lines and colours of decoration can be traced in the S Window of Hall, in black outline on a white ground, and, also on the ceiling of closet of the same Hall

there is the painted representation of a Scots thistle, a coat of arms, &c.

In Balbegno Castle, Kincardineshire, the Hall of which is vaulted in stone, has the compartments divided by the groin ribs, filled with rudely painted armorial bearings of some of the principal families in Scotland. The painting is still legible, although a good deal damaged. We have also preserved in the Antiquarian Museum, Edinburgh, a few scraps of coloured wall and ceiling decoration; also, a scrap of wall decoration in the Argyll Tower of Edinburgh Castle.

We have thus seen that the largest examples of painted decoration which we have reviewed are at:—Culross Palace Buildings, Dalcross Castle; whole ceiling at—Blairlogie Castle, Linlithgow, Nunraw House, Edinburgh (Mary of Guise's Palace); Pinkie House, Stobhall, Earl's Hall, Collairnie; and scraps at—Bishop Palace, Elgin; Craigmillar Castle, Elphingstone Tower, Balbegno Castle, Antiquarian Museum, Edinburgh; The Castle, Edinburgh.

I am strongly of opinion that in the case of the Culross examples some means should be taken to preserve these for the nation. I am glad to see from the building papers that the proprietor of Dalcross Castle is going to have this old place roofed in, it is now in ruins. The painted beams, &c., of this old castle were all copied in the same colour and style some years ago, for the purpose of preserving a record of them by the Chief of the Clan M'Intosh, at his seat, Moy Castle, Invernesshire.

I have no doubt there are other examples scattered throughout our land, which have only to be known to be "noticed," by this and other kindred societies, and there are others again like our Blairlogie example which will only be revealed during future alterations on the buildings where they now are.

SECOND NOTE ON THE CONCHOLOGY OF PERTH (SOUTH) AND CLACKMANNAN.

(By Mr Gilbert M'Dougall.)

In continuing my record of the land and fresh-water shells of this vice county, I will say, that I have not had time to travel far afield. Therefore, any short-coming there may be in having little to record, must be laid down to the want of time and not to disinclination. No lochs have been explored by me, neither have I been able to survey any old

castle ruins to see what life might be found crawling there, over the decaying moss-clad stones. Nor have I roamed in the summer gloaming over an extensive meadow, after a gentle shower, to note, for record, what slimy creatures were crossing my path. Yet, I have been able to add a few more species, some genera, and two families to my former list. I shall now proceed to name and describe, as well as refer to the habitats of the several species which I have collected since the date of my first report.

AQUATIC SHELLS.

Class I.—*Malacozoa Elatobranchia.* Shell a bivalve. Order I —*Lamellibranchiata.* Family I.—*Sphaeridae.* Shell equivalve, subglobose. *Sphaerium.* — Shell nearly equilateral, mantle with two prominent contractile siphons. *S. corneum* has the Lake of Menteith for a habitat. I have also found one specimen in a pool at the edge of the Teith at Heathershot. *Pisidium.* — Shell inequilateral. Creature with one siphon. *P. fontinale* is to be found in a swamp between Blair Hill and Dumyat. A beautiful variety of *P. fontinale*, probably *V. Henslowana* was collected in Pendreich Loch. All the species of *Pisidium* have now been collected except *nitidum.* There are some authors who rank *P. fontinale V. cinerea* as a distinct species. All the species, however, with the exception of *roseum* have recorded varieties which will require to be looked for.

Class II.—*Malacozoa Gastropoda.*—Shell univalve or none. Order I.—*Pectinibranchiata.* Shell spiral, external operculated. Family III. — *Valvatidae.* Shell conoid, more or less depressed ; mouth circular ; operculum horny. *Valvata piscinalis*, shell globular, whorls five to six, mouth circular, operculum circular, greyish-white, length ¼ inch This shell has for a habitat the Lake of Menteith. I found a single specimen in a pool at the edge of the Teith, near Heathershot. This specimen and that of *Sphaerium corneum* were found in the same pool. Might there not be a probability of these two shells having been carried down from some of the Lochs in the upper reaches when the river was in flood. If so, who can tell what a rich harvest there may be in store for the Conchologist who will explore these Highland Lochs.

Order II.—*Pulmonobranchiata*, shell generally spiral, but sometimes (*Limacidea*) rudimentary and internal, or wanting. Family I. — *Limnaeidae* shell spiral or hood-shaped ; mouth without teeth.

Planorbis.—Shell, orbicular, flat, coiled nearly in the same plane ; mouth semi-circular ; non-operculated

P. albus.—Shell finely striated longitudinally, marked with close set raised circular striae; diameter ¼ inch. I collected this species in Pendreich Loch. It was also found on the Lake of Menteith. *P. parvus* (*syn. P. glaber*).—This shell is more convex than *albus*; whorls five to six; diameter 2 lines. It is to be found in the Lake of Menteith. Very local. *P. vortex* —Shell, very flat, whorls six to eight; diameter ⅜ inch. Collected in a ditch on the south side of the road near to the farm houses, Cornton. *P. contortus.* —Shell nearly flat above with a deep concavity in the middle, very convex below; whorls eight, compressed. Diameter 1-5th inch. This shell is to be found in Pendreich Loch. *Physa.*—Shell spiral, thin, polished, sinistral, non-operculatsd. *Physa hipnorum.*—Shell fusiform, semi-transparent; whorls six to seven, rounded; spire acute. Length ½ to ¾ inch. It was collected from the same ditch as *Planorbis vortex. P. fontinalis.*—Shell oval, semi-transparent; whorls four to five, tumid; spire shorter and not so acute as *P. hipnorum*; length ½ inch. It has the Lake of Menteith as a habitat. *Limnaea.*—Shell oval, thin, translucent, mouth oblong, non-operculated. *L. peregra.*—A variety of this approaching to *L auricularia* is to be found in the pond at Ivy Lodge, Bridge of Allan. *L. p.v. albinos* has been gathered in the Lake of Menteith.

TERRESTRIAL.

Family II.—*Limacidae.*—Shell placed under the mantle, granular or shield like. *Arion.*—Shell consisting of calcareous granules. *A. ater v. pullescens*, is of a dirty white. One specimen was found last summer on the railway bank opposite my own house. *A. hortensis* is to be found everywhere. This is the small black slug with yellow foot often so abundant that it is a pest in our gardens. It is slow in its movements in comparison to *Limax agrestis*, nevertheless, it is as inveterate a feeder on all choice flowers and vegetables as the *Limax* is. *Amalia* —Shell, oval or elliptical. *A. Marginata* (*syn. carnita*). One specimen was found on Inchmahome, Lake of Menteith. I have collected several specimens about the hedge roots in my own garden, and on the banks of the North British Railway between the Forth and Craigmill.

Family IV.—Helicidae. Shell spiral. *Succinea.* —Shell oval or oblong, thin transparent. *S. elegans* has been collected along the edges of the various streams in Cornton, and in the marsh on the

west side of the railway near to Lecropt burn, where it was feeding on horse manure. It is not very plentiful. *Zonites.*—Shell orbicular, depressed. *Z. radiatulus* was gathered near to Pendreich Loch and on the Abbey Craig. Not a very common species. *Z. nitidus* is a marsh-loving species A few specimens have been gathered about the ditches in Cornton. *Helix.*—Shell globular, turreted, convex, or flattened. *H. aculeata* is a very small shell. Height, 3-25ths inch. It is frequently met with among the small stones on the front of the Abbey Craig; some specimens were also found among the debris at the foot of the hill west of Blair Logie. *H. rufescens* is to be found about the hedges at Cornton, also on the Abbey Craig and at the foot of the hill west of Blairlogie. This shell is depressed, subconic, generally with a white band at the periphery. Height, 6-25th inch. *H. concinna.*—This shell resembles *H. hispida*, but larger, and is now generally considered to be but a variety of it. Found about the hedge-banks in Cornton and on the Abbey Craig *H. pulchella* is a small white shell, sub-depressed; whorls, three and a-half. Height, 2-50ths inch. A few specimens of it were collected high up among the boulders on the Abbey Craig. But the greatest number were collected from underneath stones at the top of the field west of Blairlogie Castle. This place is another habitat for *H. arbustorum.* This species have been found by me in various places, underneath stones, at the side of dykes, between Sheriffmuir Road and the glen at Blairlogie. *Pupa* —Shell cylindrical or oblong, with many narrow whorls. *P. umbilicata v. albinos*, whitish. A few specimens were gathered on the front of Abbey Craig. *Vertigo.*—Shell dextral or sinistral, sub-cylindrical; mouth more or less angular, generally toothed internally. *V substriata.*—Shell dextral; whorls four and a-half; mouth sub-pyriform, with six teeth. Height 2-25ths inch. This species has been found sparsely on the front of the Abbey Craig and at the foot of the hill west of Blairlogie, underneath and adhering to stones. *V. pygmaea.*—Shell dextral, ovate, somewhat cylindrical; whorls four and a-half to five; mouth semi-oval with four to five teeth. Height 1-10th inch. This shell also was found on the Abbey Craig. *V. pusilla* —Shell sinistral; whorls four and a-half to five; mouth sub-quadrate, with six or seven teeth. Height 2-25ths inch. It is very abundant on some parts of the Abbey Craig. A few specimens were found at the foot of the hill west of Blairlogie. These *vertigos*

are often found in the company of *Pupas*, to which they have a resemblance, but they are more minute.

Family V.—*Carychiidae* Shell spiral; mouth oval, denticulated. *Carychium minimum.*—Shell white, oblong, whorls five to five and a-half; mouth ear-shaped, with three denticles. Height ⅛th inch. A pretty shell, which appears to be generally diffused. I have found it among stones, at the roots of grass, and among decaying leaves, on the Abbey Craig, and in several places on the railway near my own house.

For those shells found in the Lake of Menteith I am indebted to Mr M'Lellan, and, I believe, he has enlisted into the service one who is living there and is well acquainted with the district. I trust that he will be able not only to find leisure to search the beautiful lake near his dwelling, but also the four lochs on the uppear reaches of the Forth, and after doing so, that he will be prevailed upon to give us a paper on his finds in the several lochs.

In my former paper read at the December meeting, 1892, *Helix pygmaea* and *H rupestris* were mentioned as having been found. Upon further examination, what was thought to be *H. pygmaea* proved to be the young of *Pupa umbicilata*, and *H. rupestris* to be *Zonites fulvus*. That reduces my former record to 38 species Since that date, as I have stated, I have added to this list the 21 species (if we count *Helix concinna* a species) which I have just described. So that I have now to report, subject to revision by the Recorders, a total of 59 species collected within the Perth—South, and Clackmannan Vice-county. I may, however. state that 38 species have already passed through the Recorder's hands and been found to be correct.

The monthly meeting was held in the Y.M.C.A, Rooms, Allan Park, on Tuesday, 18th December. Mr James Todd presiding. The minute of psevious meeting having been read and sustained, Mr J. S. Fleming read a paper entitled, "Notes on Firbory Fort, &c., Aran Isles, Galway," illustrated by a number of beautiful water colour drawings. Thereafter Mr David B. Morris read a paper on "The Geology of Antrim." Votes of thanks were accorded to both essayists.

THE GEOLOGY OF ANTRIM.

By David B. Morris.

The following are some notes taken during a holiday spent in the north of Ireland in the summer of 1892. My purpose in placing them before you now is to fill up a gap in the syllabus. I trust, however, that they will be found interesting, as in some respects the geology of Antrim presents features similar to those of our own district, while in other respects, comparison and contrast may be made. The surface of the county of Antrim is undulating and not of great elevation except at the headwaters of the famous Glens of Antrim, where a considerable height is reached, and in the summit of Knocklayd which attains an elevation of 1695 feet. The sea coast is bold and striking, rising at places into magnificent cliffs. The geological structure of the district, though complex in detail, is simple in its general nature. It is essentially a volcanic region, indeed one of the most noticeable volcanic regions of the British Isles. The surface of the county consists almost entirely of great sheets of basalt, in other words, of ancient lava flows, which overlie a variety of other rocks. The volcanic rocks terminate at the sea in a line of bold cliffs, at intervals rising into magnificent headlands, as at Fair Head and near the Giant's Causeway. Round the shore the underlying rocks are exposed, and it is the conjunction of these different beds of rock and the fantastic structure at places displayed by the basalt, that make the scenery of the Antrim coast so attractive, and indeed in some respects unique. It must be borne in mind that there are now no cones or craters in existence marking the centres of former volcanic activity. These have long since disappeared under the influence of denudation:—they could not survive the Ice Age. The volcanic phenomona exhibited are extensive sheets of lava, beds of ash, the stumps and necks of ancient vents, and numerous trap dykes. The volcanic beds of Antrim are probably of the same age as those of Mull and Skye. To the most superficial observer the similarity of the scenery of Antrim with that of the islands named must be apparent, It is probable, however, that though contemporary, the lavas of Antrim were never physically connected with those of the West of Scotland ("Volcanoes," by Edward Hull, page 155.) The island of Rathlin lying about 5 miles off the coast of Antrim is of similar structure to the

mainland, and it is almost certain that the land surface at one time stretched continuously over the intervening space. Walking along the coast from the fashionable town of Portrush eastwards to Dunluce Castle, one cannot fail to be struck by the peculiar appearance of the cliff which rises steeply above the sands. The upper part is a solid layer of basalt, as black as coal, while underneath, the cliffs are formed of a pure white species of limestone, known as chalk. Not only is there a contrast in colour; the basalt is as hard a rock as can be found, while the chalk is soft and yields readily to the action of the waves. It is everywhere hollowed into caves and arches, known by such names as the Piper's arch or Ladies' Wishing arch, while stalks of fantastic form attest the violence of the waves and the softness of the chalk. The "Four Sugar Loaves" are so named from their shape and white colour, and the name is more truly descriptive than such names usually are. The chalk is full of flint in nodules and masses, usually dark gray in colour, but sometimes yellow or brown. As the chalk is worn by the sea, the flints fall out and strew the beach at places in great quantities. At other places the beach is covered with rounded water-worn pebbles of chalk, and as they are of a whiteness absolutely pure, when wet by the receding tide, they glisten in the sun with dazzling brilliancy. An examination of the junction of the basalt and the chalk shows that the surface of the latter was highly eroded when the molten lava was poured over it. It bears the marks of great denudation. In hollows between the basalt and the chalk, there occur irregular beds of flint gravel and red ochre. These are the remains of the pre-existing beds of which the chalk has been worn away, while the hard flints have remained. Further evidence of this pre-volcanic denudation is to be found in the fact that at places the chalk is absent and the volcanic rocks overlie other beds older in date. The chalk is of the Cretaceous formation. A short distance west of Portrush, there may be seen several dark rib-like masses showing through the sand of the sea shore, and passing thence under the blown sand of the dunes. On examination they are seen to be beds of black laminated clay, soft and brittle, of the consistency of cheese. These belong to the Rhaetic beds of the Triassic formation. Again at Red Bay near Cushendall, a bed of rock of a bright red colour appears in the sea cliff, and indeed gives its name to the bay. This is the New Red

Sandstone or Trias, the deposit immediately older than the Rhaetic. Both are older than the Cretaceous beds, which at these places have been all worn away previous to the outpouring of the volcanic rocks. The hard crust of basalt overlying these softer rocks has of course protected them from subsequent denudation. There can be no doubt that but for the volcanic cap, the soft rocks would all have disappeared long ago, and in fact there would have been no Antrim. We have several instances of the same thing in our immediate neighbourhood. The dolerites of Stirling Castle Rock, the Abbey Craig, and Polmaise and Sauchie cliffs overlie softer rocks of Carboniferous age, and have protected them from the denudation which has obliterated the surrounding unprotected strata. The difference between these volcanic rocks and the volcanic rocks of Antrim is this The Scottish beds are intrusive, that is, they have been thrust in between older sedimentary strata without ever coming to the surface at all. The Antrim lavas are interbedded, that is, they have poured out of the volcanic vents and flowed over the then existing land surface. Good sections of the volcanic beds may be seen at many places round the Antrim coast, but one as good as any and at the same time better known and more readily accessible than most, is that of the semicircular cliff behind the Giant's Causeway. There the section is from 300 to 400 feet in depth and is seen to consist of numerous layers of columnar basalt, separated from each other by thin bands of ash and decomposed lava, reddish and yellow in colour. These alternate beds are very distinct, and mark clearly the successive lava flows. It is noticeable that the beds differ from each other in the length, thickness, and form of the basaltic columns It is evident then that the period of volcanic activity must have been very prolonged with quiet intermediate stages. The total present greatest thickness of volcanic rock in Antrim has been estimated at 1000 feet (Edward Hull on "Volcanoes" page 167,) and that must only be a fraction of the original depth. How much has been worn away we cannot tell. The author just mentioned is of opinion that the entire volcanic period ranged from the close of the Eocene to that of the Miocene period, and that far the greater mass of the volcanic rocks is referable to the latter epoch (op. cit, page 156.) The nearest approach which we have in our own district

to this large mass of volcanic rocks is in the much more ancient lava flows of the Touch and Fintry Hills. Looking at that range from the slope of Ben Lomond, we see a series of beds of volcanic rocks piled above each other in successive steps. Indeed, the name "trap" which is applied to such rocks is derived from a Gothic root word, meaning a stair, owing to this very characteristic. The top of the ridge is succeeded by a smooth undulating plateau. These are the characteristics of Antrim scenery, and if we could imagine the waters of the Atlantic flowing where the Carse of Stirling is, and washing the base of the cliff, we should have a very good representation of the volcanic region of the north of Ireland. The feature of the scenery of Antrim which excites the greatest amount of popular notice is the Giant's Causeway. It is a wonderful place, and there are certain details connected with its structure about which geologists have differed considerably. At the same time the popular notions entertained about the difficulty of accounting for the causeway, fostered by guides, hotel-keepers and guide-book writers, are very far from the truth. The Giant's Causeway is simply a very perfect example of a natural phenomenon which may be seen in almost any old volcanic region, and of which there are fairly good examples at our own doors. By the laws of physics, a heated body when cooling contracts. Lava when so contracting assumes the form of a succession of pillars, broken by cross joints. The natural form assumed by such pillars is six-sided, in the same way as a drop of candle grease falling into cold water assumes a hexagonal form; facts which can be explained by physical reasons. The normal basaltic pillar is therefore six-sided. The Giant's Causeway is a mass of these pillars, standing nearly vertically, running out into the sea as a kind of reef. The pillars are very perfect in form. Most are six-sided, many five and seven; of nine-sided columns there are said to be only three and of eight-sided and three-sided, one each. The pillars are divided into sections by horizontal cracks. These are curved so that the joint is a ball and socket. Sometimes the convex and sometimes the concave side is uppermost. At some places but seldom, the tenon and mortise form of joint may be seen, the columns being joined by a piece let down at the corners. The causeway pillars average about 21 inches in diameter. At some places the average is smaller than at others, but none are much larger or

much smaller than the size named. A fantastic group of basaltic pillars, near the top of the cliff to the east of the causeway, standing out detached from the mass of rock behind, is known as the "Chimneys" from their striking resemblance to the chimneys of a house when seen from the deck of a passing vessel. A very good example of columnar structure may be seen in a wayside quarry some miles from the causeway on the road to Ballycastle. In the Stirling Castle Rock, the columnar structure of the dolerite can be well seen from the High Walk, under the Powder Magazine. The pillars are much larger than those at the causeway and though somewhat irregular are mostly hexagonal in form. Both forms of joint, ball and socket and tenon and mortise can be well seen in the Castle Rock. An artificial interest is given to the Giant's Causeway by the mythical stories of giants, etc., which are told about it, and by the names which are given to every fantastically shaped bit of rock. We have for example the Giant's Gateway, the Giant's Loom, the Giant's Organ and the Giant's Grandmother; and the Irish guides are very fond of telling wonderful stories to account for these structures. A number of old volcanic necks are to be found in the county. One is near Dunluce Castle. Another is at Carrick-A-Rede, a rocky islet standing off the coast, between the Giant's Causeway and Ballycastle, to which the only access is by an exceedingly dangerous looking rope bridge, swung from the top of one cliff to the other. The bridge is freely used by fishermen. Antrim is traversed by a series of trap dykes, indications of volcanic activity later in date than that which caused the extensive lava flows. These dykes cut right through the basalt beds, and run, as dykes usually do, in nearly parallel lines, in this case, north-west and south-east. The trap dykes of central Scotland run nearly due east and west. I had not time during my stay in Antrim to make any detailed search for traces of glaciation. Extensive beds of boulder clay were, however, to be observed on the higher elevations. In Glenariff and at Red Bay, a very noticeable bed of red boulder clay occurs, partaking in this instance, as the boulder clay always does, of the colour of the rock in the neighbourhood, from which it has been derived.

Evidences of change of the level of the land surface are very distinct. All round the coast, at intervals, where not worn away by the sea, there is the flat selvage of the 25 feet raised beach, behind which the cliff is in many places perforated by a line of caves.

The high road between Cushendall and Larne passes under two old arches worn by the sea, one near the former and the other near the latter. A more ancient ocean level, the 50 feet, is to be traced in a line of caves round the foot of Glenariff higher up the cliff than those just mentioned, and situated a considerable distance from the sea. The ruins of Red Bay Castle stand on the summit of a cliff, which is hollowed to a considerable depth by caves at these two different levels, and both sets of caves seem to have been utilized by the occupants of the castle for purposes of storage and defence. The city of Belfast is built on the lower level raised beach, and the old coast line can be be traced in the Ormeau Public Park on the south of the Laggan River, and on the outskirts of the town to the north of the river. The town is built on a former extension of the bed of Belfast Lough. The inlet of Larne Harbour is a long, shallow, almost land-locked sheet of sea water, reminding one of what the upper waters of the old estuary of the Forth would look like before the last change of sea level in Scotland converted it into the carse of Stirling. Very extensive stretches of blown sand occur at places round the Antrim coast, the sand dunes in the neighbourhood of Portrush, being a marked feature in the scenery.

No account of Antrim would be complete without some reference to its famous "Glynns," or Glens. The best known are Glenariff, Glen Dun, and Glen An. These are beautiful well wooded glens descending steeply from the plateau to the sea, and combining at many points the attractions of sylvan scenery, with a wide outlook over the Irish Sea. The streams are full and abound in waterfalls, those in Glenariff being particularly fine. The enterprise of the Northern Counties Railway Co. has been the means of providing the visitor with a series of paths, by which he may descend with safety into the ravine of Glenariff and enjoy the many fine views of the stream and falls to advantage. These glens are similar in type to most of the minor glens of Scotland. There is the wide hollow between the hills—the result of ice action during the glacial age—and in the middle of the hollow, the steep narrow ravine caused by the subsequent erosion of the stream.

Antrim is an exceedingly interesting tract of country, and one that well repays a visit, if only to view its magnificent and varied scenery. It adds, however, to our interest and enjoyment, and serves to deepen our impressions of the many charming landscapes of the district, if we have some knowledge of

the geological causes on which such diversity of scenery depends.

NOTES ON THE FIRBOLG FORTS, &c., OF ARAN ISLES, GALWAY.

By J. S. Fleming.

The Aran Isles, three in number, lie in the Atlantic, outside of and form a breakwater to Galway bay, and are distant from the town of Galway about 27 miles They are named "Inishmore," about 7 miles longand 2 broad; "Inishman," about 3 miles, and "Inish eer," the smallest. In 1581 they were respectively called *Arrynmore*, *Innishmine*, and *Innisherye*. They are formed of the carboniferous limestone of Galway bay. *Inishmore*, the highest as well as largest, has cliffs of 250 feet high towards its west side, with a sheer descent to the Atlantic, and upon which an abandoned lighthouse stands out conspicuously as a day landmark to vessels; but the light itself has been transferred to an adjoining rock island, more in the American Liners' track. The islands were anciently the seat of important ecclesiastical learning, containing 20 churches or monasteries, besides numerous cells, and beehive stone huts of monks of the sixth and seventh centuries. The forts of the early or Belgic period, built of uncemented stones, and of which there are nine, *Dun Aengus* or *Aengusa* being the largest but not the most perfect, still form, with their builders, interesting objects of discussion with antiquaries. It is said the architecture of a people is an important part of their history, it is the eternal and enduring form of their public life, knowledge, and social progress, the influence of climates and public institutions was particularly in the productions of architecture. This fort is alleged to have been erected in the first year of Christ, and previous to Cæsar's invasion of England and Scotland. The present inhabitants, descendants of the Celtic or Belgiea, are allowed to be a hardy, industrious race. They retain some of the customs of their ancestors, wearing the raw hide footgear, or *ravelins*, of the Shetlanders, and using in their fishing the wicker hide-covered coracle, but now covered with canvas, which are managed by two men with four oars, and with which they go well out to sea. They are much more clean and better clothed and educated than their fellow-countrymen on the

adjoining mainland, and counted more sober and honest, and seem very intelligent; and, in fine, it is said they have all the virtues and as little as humanity will permit, of the sins of the Irish race. *Dr Petrie* gives them an exceptional character:—"Collectively, they are a brave and hardy race, industrious and enterprising, as is sufficiently evinced not only by the daily increasing number of their fishing vessels, the barren rocks which they are covering with soil and making productive, but still more by the frequency of their emigration from their beloved country and friends, to a distant wilderness, led solely by the hope that their indefatigable labour may be employed there to the greater ultimate benefit of their families. They are simple and innocent, but also intelligent and thoughtful. Lying and drinking, the sins considered to appertain to the Irish character, form at least no part of it in Aran, for happily their common poverty holds out less temptation to the one, or opportunity for the other. They never swear, and they have a high sense of decency and propriety, honour and justice. In appearance, they are healthy, comely, and prepossessing; in their dress, with few exceptions, clean and comfortable; in manner, serious, yet cheerful and easily excited to gaiety, frank and familiar in conversation, and to strangers, polite and respectful, but at the same time wholly free from servile adulation. They are communicative, but not too loquacious; inquisitive after information, but delicate in seeking it, and grateful for its communication." It is with *Inishmore*, the only island we visited, we have to deal with, however. Of the islands generally, but this principally, we learn that they were originally inhabited by infidels from Clare or Corcomroe, the nearest mainland; but in the year 480 it was gifted by Aengus, King of Munster, to his brother-in-law, Ende or Enneus, only son of the King of Oriel, whose territories included Lough, Monaghan, Armagh, and Fermanagh. Three of Ende's sisters were nuns, and the fourth was Darenia, wife of Aengus, whose death is placed by "the annals of the Four Master" in 489. (He would seem, however, from the same annals, to have been married twice, or his wife have another name.) On the death of his father, Ende was chosen as the head of the men of Oriel, and it is said he distinguished himself in these warlike times. His holy sister, Franchea, exerted herself to convert him, and there are legends of a tragic love story connected with his conversion. It changed the haughty Saul into the humble Paul. On his obtaining possession of his gift, St Ende came with 150

religious persons who turned the islands into a renowned holy place, the infidels being either converted or leaving the islands, and erected many ecclesiastical buildings. Thirteen of the 20 churches are described as—1, *Kill Ende*, dedicated to this Saint, who is venerated on 21st March. 2, *Teglach Ende*, containing St Ende's Sepulchre, and those of 127 other saints. 3, *Tempull Maclonga*, dedicated to Saint Maclongus. 4, *Tempull Mic Cannon*. 5, *Saint Mary*. 6, *Tempull* Ben Ain, or Saint Benignus. 7, *Mainister Connachtach*, or Connaght Monastery, which was demolished, and a chapel to St Kieran erected. 8, *Kilnamandch*, dedicated to Saint Caradoc. (Is this *Kenanach?*) 9, *Tempull Assurnuidhe* or *Esserninus*, which was held in greatest veneration by the islanders. 10, *Tempull An Cheathruir Aluinn*, or of four beautiful saints, viz., Fursey, Brendon, Conall, and Berchann, all said to be interred in one tomb here. 11, *Tempull MacDuagh*, dedicated to Saint MacDuagh, which was a handsome church, of which more hereafter. 12, *Tempull Breccain*. 13, *Tempull a'Phuill*. These erections gave to the islands the names of "A Arannaomh," "Aran of the Saints," and Saint Kieran of Clonmacnoise's life states, "In qua multitudo sanctorum virorum manet et innumerabiles sancti omnibus incogniti nisi soli deo omni potenti ibi jacent." St Kieran lived nine years, leaving the rock in 538. His successor continued down to the suppression of abbeys, the last of whom was Donatus O'Leyn, Abbot of Aran in 1400. Our own celebrated St Columbkill sojourned on the island, forming one of the saintly brotherhood, and he leaves us a farewell poem (translated for the Ordnance Survey by O'Donovan), written on his departure for Iona:—

"Farewell to me from Aran,
This it is which anguishes my heart:
That I am not westward at her billows,
Amidst the groups of her saints of heaven

"Farewell to me from Aran;
It is a sad farewell,
And it filled with angels bright,
I without an attendant in my currach.

"O, great Modan son of Me-sing!
Prosperity to Thee is what I say;
I being sent on a journey,
Thou remaining in Aran.

"Alas how far, alas how far,
I have been sent from Aran the west,
To the host of Monachs away,
Depending on the Albanians

The Son of the living. O! the Son of the living God,
It is he who sent me to Iona,
It is he who gave to Enna, great the prosperity,
Aran, the home of Pilgrims."

and so on for 13 other stanzas. The memory of Gregory the Great was venerated by the Islanders, and the sound betwixt Inishmore and Inishman still bears his name. Where it may be asked did all these religious men live? How were they sheltered from the fury of the Atlantic storms, the first necessarily spent on the beetling cliffs of Aran, and how were they protected from the wintry cold and from the rain, and how were they supplied with food, however plain their fare? The early monastic establishments were comprised of separate cells for the abbots, monks, and clergy, and separate establishments surrounded by a cashel or wall for the strangers, kitchen, &c These establishments are supposed to have been formed of materials within easy reach of the builders, and of perishable materials, as wood and clay, and hence few vestiges of them remain in the northern and eastern portions of the islands, but in the west and south many buildings survive. O'Flaherty calls them "*eloghanus*, a kind of building of stones, one upon another, brought to a roof, without cement and without a knowledge of the principle of the arch, and in imitation of the model left by the Firoolg. The differences between buildings of the Pagan and Christian periods are, whilst the former were circular *externally* and *internally*, the latter although *externally round*, are occasionally *quadrangular* in the *interior*, as if the form of churches had been adopted, also for the houses of ecclesiastics. Whole villages of these exist at Arnmore." This statement of the ignorance of the principle of the arch does not, however, correspond with the architecture of the churches presumably of the same period, the arch in which is shewn in the ruins to be extensively used in various forms. "Aran," says Froude, "is no better than a wild rock. It is strewn over with the ruins, which may still be seen of the Old Hermitages, and at their best would have been such places as sheep would huddle under in storm and shiver in the cold and wet, which would pierce through the chinks of the walls. Yet there on that wet soil, with that dripping roof above them, was the chosen home of these poor men. Through winter frost, through rain and storm, through sunshine, generation after generation, lived and prayed, and at last lay down and died." The annals of the

four masters tell of a conflagration in the Islands n 1020, and of the devastation of the Normans or Danes in 1081. At a later period it was held by the O'Briens; the Chief MacTeigh O'Brien kept his residence at Airein or Arkin in the Great Island. The O'Briens were expelled by the O'Flahertys, who were again dispossessed by Queen Elizabeth, under whom the Castle of Arkin was erected in 1587, on the site of O'Brien's residence. Elizabeth gave the island to John Ramson, from whom it passed to Sir Robert Lynch of Galway. In Cromwell's time this castle was replaced by a fort. In December, 1650, flying from the mainland, 700 Irish took refuge here, but were followed by 1300 English with a battery, when the Irish surrendered, and Sir Robert Lynch declared a traitor. Erasmus Smith then became owner, who disposed of his interest to the Butlers, one of whom was in 1662 created Earl of Aran. From the Butlers the islands passed through the Fitzpatricks to the Digbys, the present or recent owners. *(Archdale's Monasticon Hibernicum Vol. II., Galway.)* Located in July last at a small anglers' hotel in Carna on the west coast of Connemara, a wild and barren district, and still unsettled and lawless, as we had a startling practical demonstration before we left the country. As a change and rest from fishing the lakes the landlord kindly offered his hooker, a strong, open smack rigged boat about 2 or 3 tons, to visit the Aran Islands, about 30 mile outside and in the Atlantic. As to any objects of interest we three, a British Consul, and nephew of the celebrated discoverer of *Nineveh*, an English doctor, both scientific men, were entirely ignorant. Some reference was made to "the seven churches," a common and misleading title given to many groups of small ruined buildings in different parts of Ireland. As it is impossible to an Irishman to accomplish any business, however easy or simple, without some blunders, so here the first day was lost by the omission of the hooker to be hauled out, and it was lying grounded at an ebb-tide when it should have been, as emphatically promised, at the pier, a new structure which cost the Imperial Government some £5000 or £6000, and not a vessel frequents it beyond a small boat occasionally from the Islands. After the men wasting a couple of hours fruitlessly trying to move it we gave it up. Next morning however, our landlord being now on his mettle, had it all ready at the pier with a crew of two non-English-speaking Irishmen and our ghillie to assist, who soon had it under sail in a fair wind, and as we were to return that evening we had provided nothing for the

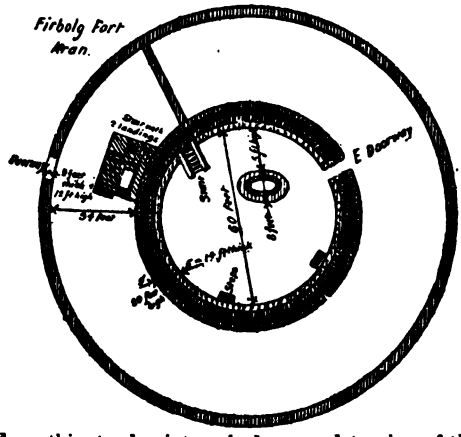
different arrangement, and as it fell out we had something of an adventure, being wind bound, which occasioned our stay on the Island overnight, to the alarm of our friends. As with a fair wind we swept past the numerous islands more or less densely populated by the finest looking of the peasantry, as to physique, most miserably clad as to clothing, but very clean and healthy, the various sails crossing and re-crossing in our tract between the islands and mainland, were picturesque, and enlivened our voyage. As there is no turf or peat for fuel on the islands, and that and all their provisions have to be brought from the mainland, the collecting seaweed for kelp, for which there is again a fair market, and fishing, all necessitates paddy keeping a hooker in conjunction with his neighbour, as much as his neighbour on the mainland has a horse and cart, and the waters, when no storm is on, is well covered with sails. The fishing is very desultorily followed. It is by no means taken to here as an occupation, nor indeed for any purposes but for their own food, as they say they can find no market. The fish are large. We saw conger eels split, hung up in a cottar's house to dry, the smallest as thick as a man's leg, and 6 feet long, and the largest as thick as a child's body, and 8 feet long, all caught about the Island of Aran. The seaweed for kelp is wrenched in deeper water off the sunken rocks by rakes with handles about 12 feet long, and a boat-load goes but a small way on being calcined to a ton of kelp. The fires of the burning weed is a summer night's feature along the horizon, and so is the smell, not, however, so pleasant, and it is carried over 20 miles. On getting into the open Atlantic, and in easy reach of Inishmore, the wind left us entirely, and during the working of the oars we had leisure to examine the shores of the island with our glass, while we lay sweltering in the heat of a strong unclouded sun, glad to get under the shadow of the set sails. We failed to spot the seven churches or any likely ruin answering to them, but in addition to the light house, which although now abandoned, seems as perfect at a distance as when it did duty to the Atlantic fleet, and which topped the highest peak of Inishmire, we saw and spent much conjecture upon a large square object against the sky line, immediately below the height; but from the position of the sun behind the hill our glass failed to satisfy us whether it was a natural rock or a building, and our

crew could give us no assistance, and our ghillie had not been at the island before. We learned so much from them, however, as to have the discomforting prospect of spending a night on the island for want of a return wind, which led us to overhaul our finances and consider the whole situation generally. By the Sweeps we reached the pier of Kileany, named after the Saint, in the evening — a shallow bay, but with a new, excellent stone pier (of course, the work of the conjested District Board, built with Imperial money.) It is, however, the principal town and pier of the islands, and a steamer from Galway calls there twice weekly, subsidized by Government to call and carry the mails, and its captain, on my return journey by it to Galway, complained to me that the £2000 was unable to repay the loss occasioned by their call where there was little traffic. There is an inn for travellers—a white-washed house over a store, entered through a smoky kitchen. It has a conspicuously large sign, and enormous letters, "The Atlantic Hotel," which could be seen by the American Liners passing the bay. We, however, secured fairly good sleeping accommodation and a good meal, and after settling with the crew, who had arranged (if the wind did not arise and allow us to leave), to sleep on board that night, we preceeded, under the guidance of two boys selling native products, to see the antiquities within easy reach that evening, and arranging with our landlady for a car the next morning to the Seven Churches (7 Irish miles distant) we set out. A recently erected grey granite Ionic cross in "the Diamond," paid tribute to the memory and high estimation the islanders held of their late pastor, Rev. Michael O'Donoghue, whom they named "The Benefactor of Aran."

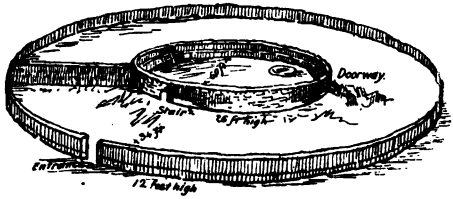
Beehive Stone House - Aran
19 feet long 7 feet 6 inches broad, 8 feet high

The first "Tempull" lies about a half-mile from the village by a steep road through the main street, if we

may so call a road, and on the sea shore side of it, to reach which we turned down a lane to the shore between two very high dry stone walls; and here it may be remarked that the distinctive feature of the whole island to us, seemed the numerous excessive high dry stone fences enclosing and protecting, with what useful purpose it was impossible to conjecture, little better than rocky verdureless plots. This church or temple was in ruins, and our English friend, who had been reading Sir Walter, pointed out that it was to a Scottish Saint, the name "Saint Ronan" being graved over the doorway. It is also called "St Kieran." Although St Ronan is not one of those of the early saints or churches named, he must have had a veneration or eminence equal probably to St Ende himself, as the parish is presently named after him It is an oblong, roofless, stone building of modest dimensions, with signs of more recent and, therefore, advanced ornamental architecture than the others we saw, which an acknowledged authority in Gothic architecture conjectured, from the sketch shown him, to be not earlier than the 11th or 12th century. Mr L. pointed out in the sketch that the altar window formed with the opening or slit as the shaft, and the two side astrigals or mouldings the arms, a complete cross. Regaining the main road, and proceeding west a few hundred yards we struck off to the left, ascending the rock—the light-house, now abandoned, being pitched on the highest point—with a sheer descent on the west side to the sea. The tower, nearly perfect, still stands, is built of large blocks of grey granite, and is a massive structure, strong enough to resist the future ravages of time, although accompanied by the unbroken blasts from the Atlantic, to which it is exposed. Descending the slope upon which the ancient fort is erected we observed its walls, towering above the high stone fences of the peasants' plots, intervening, which we only got over after a very considerable and hazardous scrambling, climbing, and opening gaps where too high to climb without bringing eight feet of wall of stone down upon one, and we reached the first of the smaller of the nine forts on the island. The outer wall of this fort is a complete circle of 12 or 15 feet high, and a masterpiece of uncemented stone building, an art the fences of the present natives show is not yet amongst the lost ones of the Islands. The entrance was by a gap intersecting the wall to its top, and on entering the outer court we found the ramparts which faced us had a perfect stone stair, by which we ascended to the top, which had a considerable width

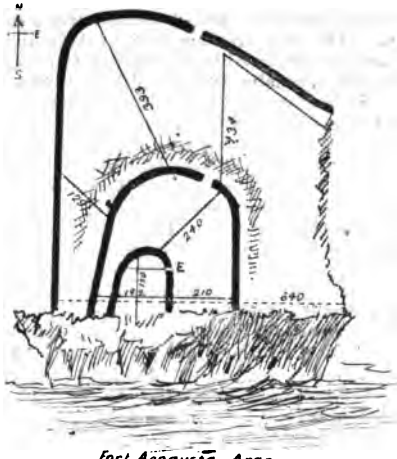


From this stand point we had a complete view of the entire structure, with its outwork, and the impression these made upon us all may be partially realised when we say that the learned archaeologist Dr Petrie ascribes to Dun Aengusa, a neighbouring fort, which, although more extensive, is not so perfect, the title of *the most magnificent barbaric monument in Europe.* It was difficult to realize, I do not realize it yet, that these walls and this fort were occupied by a race 2000 years ago, as there is no indication of the exposure of ages upon them. The walls are bare of moss lichen or similar plants indicative of age, and are apparently as complete as when first erected. No fallen stones, nor weeds encumbered the areas, no gaps in or displaced stones from the walls, everything was as perfect and complete as when last occupied by the race to which their erection is ascribed, and could be so used at the present day without a single touch. Their state of preservation is simply marvellous. The fort stands on nearly the highest part of the eastern slope of the rock, but sheltered from the Atlantic storms. This fort consists of an outer wall forming a true and complete circle, and enclosing an area of about 165 feet in diameter. This wall is five feet thick and about fifteen feet high, and is faced with large stones of the stone formation (limestone) of the island, on both its sides, including the gap or portal referred to, and packed with rubble, and is completely flat on the top. The entrance (there is only one) is about five feet



broad, and faces the west or south-west. There is no trace of a door, either of wood or stone, having been hung on the portal, nor of a means of ascent to the top of this wall, which could be walked on with safety. The area between the outer wall and the fort proper is about 34 feet from wall to wall, forming an outer court; but within 30 or 40 feet, and to the north westward of the entrance or portal, another wall of the same height and construction, but scarcely so thick, extends from the outer wall to the fort, and forms a complete barrier to the circumabulation of this court. The fort proper is also a perfect circle, enclosing an area or diameter within its walls of about 88 feet outside measurement. This wall or rampart encloses an inner court of about 60 feet in diameter. The wall is virtually double, the base to the height of 5 feet, being about 14 feet thick, and from thence to top only 9 feet thick, and this forms a ledge or gallery all round the inner side of the wall, 5 feet broad. The fort wall or rampart is about 20 feet high, and the top 9 feet broad, is completely level all round, and seems quite complete. This wall is also constructed similarly of the kind and sizes of stones, and in same manner as the outer wall, viz., by large stones on the outside faces and rubble for packing. Neither the top wall of the rampart, nor of the inner gallery, are paved or flagged, but the top layers of stones are so evenly laid and flat, that standing or walking is easy on both, and indeed on the top of all the walls. The fort proper has two entrances from the inner court, one is a gap or portal extending the whole height of the wall, completely separating it from top to bottom, and exhibiting a section of the wall. It is about 6 feet broad. There is no trace of any door either of wood or stone being hung here either. The other by a stone stair, the steps pretty entire, and of sufficient breadth to allow two persons to ascend abreast. This stair is placed exactly opposite the portal in the outer wall, and has two landings leading to the top of the ramparts. There are ruins of stone walls, forming probably a small guard-

house, at the bottom of the ascending stair. Corresponding with this stair, about 30 or 40 feet to the westward, another stone stair (without any landing, however descends from the top to the inner court. Besides these stairs, there are in the inner court two sets of steps leading to the ledge or gallery of 5 feet in height and breadth, forming the base storey of the rampart referred to. The outside wall of the rampart is smooth and without projection or ledges of any kind, and in neither of the walls outside or inside are there any openings, apertures, or enclosed spaces in their thicknesses, but all are solid from top to basement. The whole walls are of uncemented stones of the district, in longitudinal courses, uneven but beautifully sized, and built so compactly that it would be difficult to dislodge a stone, and form solid walls of great powers of resistance They are as evenly laid, and with as an exact finish as a modern building of stone and mortar. Lastly. In the inner court placed towards the east corner of the circular area there is a raised mound of circular form, 8 feet in diameter and 5 feet high, erected of large stones round the edges, and having the centre of sward or grass. The courts were all in grass, and very few weeds were noticeable. There was seen no trace of any buildings or erections inside these walls nor chambers in their thicknesses. Neither were there indications of a permanent domestic occupation, but, of course, structures of perishable material could have left no vestiges of their existence through such a course of time, and would have long since disappeared. The largest fort of the 9, called by Petrie, "The most magnificent barbaric monument in Europe," is not perfect, and the lesser fort before described is a more noble and complete specimen, and in a perfect state of preservation. This large fort, Dun Aengusa, is formed of three horse-shoe shaped walls, having their bases or parts where the hoof is placed, next the cliff, 150 feet deep to the sea, and from the ground plan it shows it occupies an angle of the cliff. *Lord Dunraven* in his important work says :—"The fort proper is half an ellipse of 142 feet in its shortest diameter, protected on two sides by the sea, and the wall or rampart from 8 to 12 feet thick. It is unequally placed in the second area, which is 210 feet from the east wall measured along the cliff, and the third and outer wall is 300 feet from the cliff of an irregular half circle, and about 8 feet thick. Each of the outer walls have entrances facing the east. The fort's proper wall is 18 feet thick, with two faces of uncemented stones of



Fort Aengusta - Aran

ordinary size, having tolerably smooth surfaces, the central core being rough dry rubble, and in some places this packing seems purposely to have been unfilled in, leaving in some places a hollow of 7 feet deep, supposed to act as a cover to shelter the defenders. The doorway of the fort proper is roughly built of large stones, one block forming the lintel, as shown in the sketch. The stones used in all the forts

Doorway - Fort Aengusta

are in sizes according to the district in which they

are obtained, and are so placed as to produce a smooth surface. The forts are comprised of three walls of rubble, centre and faced in dry walling, form a triple compact mass, usually 18 feet thick and 20 feet in height. Some of the fort walls, from being disjointed, seem to have been built in separate jobs, the masonry betrays haste and want of care, headed stones being tilted downwards towards the face of the wall, keeping water out of the joints Mr Wilkinson thought some of the larger stones were quarried, but no stones show visible marks of tools. In some of the forts the walls reveal a hallow centre. The passage or entrances show that they were occasionally closed with double doors fastened with bolts or bars of wood, the holes for the recepture of which may be seen. Platforms, offsetts, or banquets, run along the inner sides of the walls of the fort proper, to which 4, and even 10 independent steps, gives access. Passages and dome-roofed chambers occur occasionally in the thicknesses of the walls, and in the inner area of the fortresses little round stone huts with conical roofs or long forms of the upturned boat, seemed to have been constructed in clusters. The dome formed by the projection of one stone beyond another till the wall meets in one flag at the apex, and the use of the horizontal lintel in the doorways are forms universally adopted by early races in all periods of the history of man. It is a fact that neither in Greece nor Italy is the so called cyclopean or polygonal style of construction found except where the hard limestone forms the frame works of the countries supplying the materials close at hand. Pagan forts are composed of 2 and sometimes 3 areas, the interior or fort proper being either oval, circular, or half ellipse, but with no variation of ground plan that was meant to enclose subjects already in existence. Inner area of the forts generally extend from 227 to 60 feet in diameter, that of the Cashel to 140 feet in diameter. The inner face of walls is furnished with platform and flight of steps by which the invaded could reach the platform in time of attack." "*Lord Dunraven's Forts of Aran.*" The erection and occupation of these and similar structures is laid to the door of a race occupying Ireland previous to the Christian era, and which were found by Cæsar in occupation of parts of Kent and South of England at his invasion, and had apparently crossed to Clare or Corcomroe, from whence the islands are traditionally alleged to have been colonized, if not directly colonized from Spain itself. The Belgæ or Firbolg is the name given, we learn, by Cæsar to this race or warlike

tribes, occupying in his time the great division of Gallic Germany, probably of Celtic origin. They are also called *Pelasgians*, explained to be derived from either (Pell asini) "swarthy Asiatics," or (Pelaigoi) or "storks," significant of their wandering life, or from the Bible (Gen. x. 25.) Peleg, one of the two sons of Eeber, and they inhabited part of Asia Minor and part of South Europe in prehistoric times. From what we can glean the Belgae appeared to have been a highly intellectual receptive and active people of simple pastoral habits, chiefly agricultural, no less warlike when acting in self-defence, and were maritime and knew the art of navigation. The invention of the trumpet is credited to them. Of their architecture, named in default of a better "Cyclopean," their names in Greece expressed either "mountain fortresses" or "strongholds in plains." Wishing to remain in peace, they kept off the invaders by walls so enormously strong that it seems surprising how they ever could be taken. They seem also to have made canals, built dams and subterranean water works. It is only certain that their mystic worship was of the natural powers, whose influence was visible in the growth of the fruits of the earth ; and of human sacrifices it is uncertain. Herodotus, speaking of their language as barbarous, has given rise to controversy if they had a language. Their political circumstances are unknown. The tribes were not uniformly governed. Some were ruled by priests, whilst others were under the patriarchal rule of the head of the clan or tribe. That this theory is not universally accepted, and is questioned, is indicated by the writer's remarks, "that to the divergent theories of historians, philologists, antiquaries, and other investigators, the history of this people seems peculiarly attractive." Transposing the axiom we refer to, that the architecture is an important part of the history of a people to that of the history of a people identifying and discovering its architecture, we have here a structure exactly adapted to the pastoral calling, social habits, religion, and laws of the Belgaec race, and the circumstances of their then surroundings as disclosed in the history of nations. These structures, by far the largest of the series, must have belonged to large and important tribes. The massive walls form an impregnable defence against an invader, and protection to the tribes and their herds, for which the areas afford ample accommodation against the primeval weapons of that period. The situation for favourable defence are on the highest points available, consistent with the shelter of the erections from the Atlantic

blasts, and not commanded or overlooked by any neighbour. As a hall of justice the platform is a legal bench from which the judges could settle disputes and administer the laws of the tribe in the sight and hearing of a very large assembly in the amphitheatre, and from the same platform proclamations of the laws were made, and it also supplied an altar to the priest when the building was converted into a temple. Since writing the above my opinion has been confirmed by Moore in his "History of Ireland," who says, "The sacred hills or Tumuli of the Irish (of course the descendents of the Belgæ) were appropriated to a variety of purposes, for there the sacrifice was offered by the priest; from thence the legislator or judge promulgated his decrees; and there the king on his inauguration was presented with the wand of power." Again, "The dynast, or chief, had certain judges under him called brehons, who at stated times sat in the open-air, generally upon a hill or on a bench raised with green sods, where they distributed justice to the neighbours" (Ware's Antiquities, ch. XI.). Again, "In the abreviate of getting Ireland and decay of the same," by Baron Finglas of Exchequer of Henry VIII., "the English laws were not observed eight days, whereas the laws passed by the Irish 'in their hills,' they kept firm and stable, without breaking them for any fee or reward," and St Patrick by the poets is mentioned to have preached "of God in the hills and by the sacred founts." And that the barrows or cairns were dedicated to the worship of the sun there are abundant proofs. The antiquity is from "grian," the Celtic name of the sun. So to "carne," the term in Celtic of these tumuli is manifestly to be traced. Gough's "Camden," vol. III., rejects as vague and unsatisfactory the attribute of these monuments to the Danes, and that from the strong resemblance between the primeval and nearly patriarchal customs of the east, and those aboriginal works in Ireland and Britain in the west, that they are without exception the works of the first race of settlers in these countries. There seems to have been discovered or at least preserved no inscriptions left by this race, if we keep off the doubtful ogham letters in the subsequent and later periods of history presently assigned to that language, no indication of ornament beyond a rude architecture, no knowledge of the principles of the arch. *Niebuhr* remarks of the Pelasgie, to which are ascribed an alphabet of an original or early Greek character, that while the words belonging to the sphere of peaceful rural

life agree in both Greek and Latin, expressions for war terms and hunting, have no words corresponding to them in Greek. Next morning, after breakfast we proceeded by car a drive of fully an hour, by the road of the preceding evening to Oonaght, 2 miles from Kilmurry. The upland is simply a vast rock, apparently having its strata perpendicular, it is without soil, verdureless and treeless, and has a dried up, sapless look, and at one part of the road where from its height we overlooked about a half mile of the country, the space had the illusion of a large ruined and deserted city. It was a unanimous sensation; indeed, of the whole objects of interest on the island which we visited, the only two which impressed us were the Firbolg Forts, and this illusion of a vast ruined city. Since writing the above I find the Rev. Dr Conroy says of this plateau, "The rocks spread into immense sheets and tables of stones, sometimes 60 feet broad and as smooth as polished marble, and giving out a sonorous metallic ring. Slabs rise tier over tier in and out in a thousand mazes, and threads of herbage on closer inspection may be traced in the interstices, and adds that the description by Dean Stanley of the limestone district of Syria, Lebanon, and Palestine, is peculiarly descriptive of this locality." The water on the island is evidently scarce, and was collected by small utensils as a precious commodity. We passed numerous stone built pilllars and ruder erections, some with inscriptions caling for the prayers of travellers on behalf of the souls of Bridget and Patrick Sweeny, etc. They were distant from, and had no connection with any burying place. The stony plots, we learned, were made cultivateable by the laborous process of transporting sand from the beech in creels, and the crops seemed superior to those on the mainland. Oonaght, a thatched-roofed cot and kailyard village, held the ruins of the Seven Churches, to which our visit was made. The ruins are on the slope of the hill overlooking the sea, and of the various buildings not exceeding the size and appearances of ordinary cot houses, we could only make out two ecclesiastical buildings of any interest. They are in a burying ground, containing the ashes of saints, no doubt also these of less eminence, as the skulls of two natives evidently taken from the burying ground, and which ornamented the altar, were declared by the doctor and Mr L. to denote a low type of intellectual development. There are the ruins of three or four smaller rude buildings. Dr Petrie's description of Tempull MacDuagh a similar form of church on the

island, which as applicable to Tempull Brecan is here given substituting St Brecan's measurements, and a sketch of its doorway, which is not clyclopean, however. He says:- "It is a beautiful specimen of the ecclesiastical architecture of the sixth century. It has a nave and chancel, which characterises the first mentioned species of Tempulls. The nave is little more than 32 feet long by 18 feet broad, and the chancel nearly 20 feet long by 18 feet broad. The stones are of immense size, and the entire building has a sombre and severe look. The doorway is a remarkable instance of the

Doorway of St Brecan's

Cyclopean door, and resembles the doorway of the Cathedral of the Church of Kilmacduagh, erected for Saint Colin MacDuagh, by his kinsman, King of Connaught, about the year 610. It is 5 feet 6 inches in height, 2 feet in width at the top, and 2 feet 3 inches at the bottom. The lintel is of granite, and measures 5 feet 6 inches, and 1 foot 6 inches in height, and extends the entire thickness of the wall, which is 2 feet 6 inches." He adds, the contrast between the round towers masonry and that of the pagan forts is quite distinct. The pagan forts are built with undressed stones without mortar, and the round towers of chiseled stones with mortar. They are neither built by the same race nor at the same period. Petrie's Round Towers, p. 174. We ap-

parently saw only a very small number of the antiquities of these remarkable and interesting islands, and to a zealous antiquary, or member of this society, with time and money available, the district of Galway presents a wide field for investigation. A steamboat sails weekly from Glasgow to Westport, from whence by car a beautiful, although long, drive takes you to Galway, and a small steamer, "The City of the Tribes," plies twice weekly, Tuesdays and Thursdays, between Galway and Kilkerran, passing Aran, and accommodation can be got there such as we obtained. There are seven other pagan forts, many holy wells, round towers, bee hive huts of stone, cashels or walls, and it is said whole villages of these stone huts still remain. The town of Galway, called "The City of the Tribes," is allowed to be the most foreign town in Ireland, and contains, besides St Nichol's Church, other buildings, highly ornamented mansions of the ancient Spanish merchants, who carried on a large trade with Galway, and left their country to settle here. We returned to Kileanny in the afternoon, and found a fair wind had sprung up, and our crew were ready to sail, and after a splendid run of three hours arrived at Carna, relieved the minds of our friends alarmed by our absence over night. It is a bad coast to be cruising about in a dark night, as the wrecks we saw on the shores testified to us. We enjoyed the trip greatly.

St Macdara's Cell of 5th or 6th Century.

There is a complete example of the early stone-roofed cell mentioned in Dr Petre's work, which I

visited, and a sketch of it and the peculiar window is given. It is on the Island of Anach Mic Dara, an uninhabited Island of about 8 or 10 acres, without a tree or shelter, lying in the Atlantic at the entrance to Ard Bay, and 12 miles from Carna W. Connemara. On this desolate wave worn rock is the cell of that saint, built of the cyclopean or polygonal order, with one small eastern window and square door, roofed so far as preserved with peculiar shaped stones. It is 15 feet length, 11 feet broad, and the walls 2 feet 8 inches thick, but some of the stones are of great size. He is

Window of St Macdard's Cell
5th or 6th Century

alleged to have been a miraculous Saint and patron Saint of the adjoining parish of Moyrus on the main land, whose festival is kept on 16th July The bronze cross in the church still exists (where is not stated), and his statue of wood was burned by order of the archbishop of Tuam "for special weighty reasons." The Parish Church of Moyrus, now a picturesque ruin situated on a fine sandy beach at the village of that name, is dedicated to his name, and here his altar stone was still preserved, but was not there at our visit. This Saint is extensively venerated, and boats in passing between Mason Head and this Island dip their sails three times. There is a stone called the captive stone on which the women at low water gather daleasg (dulse), to send to their friends in prison to get them early deliverance by the intercession of the Saint. Dr Petrie compares the doorway to that of St. Kilmacduagh above-mentioned,

a very early building, and that the window, which is splayed internally, was filled with parchment or horn. The station or veneration of this Saint is held on 16th July, and is attended by, I was told, 400 boats. On the recommendation of the priest I attempted, but failed, on account of a storm, to get to the station that day, having to put into another island, as we saw numerous other pilgrim boats had likewise to do, our boat being filled with spray, but afterwards visited the Island.

Note.—The Annals of the Four Masters were written by Maister Michael O'Cleary and three colleagues, in Donegal Abbey, about the year 1616. They consist of 11,000 quarto pages on vellum, comprehending a national history period of 4500 years, beginning with the year of the world 2242, the most magnificent comprehensive history now extant of any nation, we should say, in the world.

The usual monthly meeting of the above Society was held in the Committee room of the Y.M.C.A. Institute, on Tuesday. 19th Feb., Mr James Todd, F.E.I.S., presiding. The minutes of January meeting having been read by the Secretary and approved of, an interesting contribution by Miss M'Lagan, Ravenscroft, on the recently discovered sculptured stones at St Andrews, and on a monument in St Mary's Chapel, Rothesay, was read, and beautiful rubbings of the stones and monument referred to in the "Notes" were exhibited. The Rev. Mr Smith, St Ninians, followed with a very interesting account of the village of St Ninians, which, according to Mr Smith, was in early times a place of importance, rivalling Stirling itself. In the discussion which followed, ex-Bailie Ronald negatived Mr Smith's theory that the burgh of Stirling was originally in St Ninians Parish, and that the church in the village was the Parish Church of the town. That idea could not be entertained for one moment. Exception was also taken to the statement that the village derived its name from the chapel and well of St Ringans, or that the latter were ever appanages of St Ninians Church. St Ninians Church held from Cambuskenneth, the Chapel from Dunfermline, and at the Reformation both chapel and well became the property of the burgh. Mr Shirra, in moving a vote of thanks to Mr Smith, said that it was a splendid subject—both village and church—and Mr Smith had

handled it ably. The Parliament Close referred to, with its quaint inscriptions, was a most interesting structure, and must in olden times have been connected in some way with the church. That the church was blown up in 1746 by design and not by accident could be proved, notably from an account compiled from the testimony of eye-witnesses while the incidents were still fresh in their minds, and published in 1746. A vote of thanks to Mr Smith having been moved officially by the Chairman, the meeting closed.

THE RECENTLY DISCOVERED SCULPTURED STONES AT ST ANDREWS.

By Miss MacLagan.

In laying before you these rubbings from ancient sculptured stones lately discovered in the Cathedral St Regulus, St Andrews, it seems needful that a few words be offered in explanation of how these stones came to be so long hidden from the people of that learned town. Well, their position may easily account for their ignorance of the stones' existence, for that was quite under the present, and probably also under the soil of the long past. Their lowly position is the base of one of the walls of the Tower of St Regulus. Sculptured stones are surely intended to be seen, but these could not possibly be so. How, then, came they to be placed there? This question has in our public prints been put again and again, without reply, but to us an answer seems to be abundantly obvious. At some period of the past history of St Andrews, the good folks there, taking a careful look at the walls of St Rules, observed that the masonry of its tower was getting wasted by the frosts and winds of time, becoming, it may be, somewhat unsafe. So a mason was called in aid and told to make things all safe. He mayhap had no materials given him for the needed work, so he found for himself. All around him there lay the dead, and their monumental stones, whole or in fragments, uncared for we doubt not. He took from them what best suited his job, unquestioning of their sacredness. Needing long stones, he laid hands on the shafts of sculptured crosses and spread them across the base of the Tower, one above another. The carvings on these are in rather good preservation, but at certain parts of the length of the stone they altogether cease. These are marked on the rubbings A.A. and B B., and have to us a well-known mean-

ing, which is that these parts of the shafts of the crosses had been sunk in the ground when they stood as upright crosses. These long stones strike the eye of all onlookers; but there are others that have been used by our mason in his mending work that are less easily discerned, and are stuck into the wall above over a space of about ten feet. These have on them very dim remains of sculpturing Of these we hand a a few loose papers. The churchyard soil that had long gathered around the Tower wall is now held back from it by a well kept bank of grass.

MONUMENT OF WALTER STEWART,
SENESCHAL OF SCOTLAND,
In St Mary's Chapel, Rothesay.

It is from information kindly furnished me by the Rev. Mr Hewison, minister of Rothesay, by his very accurate writings and personally, that I am able to say that this monument before you was erected by King Robert II. in memory of his grandfather, Walter Stewart, Seneschal of Scotland, who as "ane beardless youth," 23 years of age, along with the Douglas led on the left wing of the army of King Robert the Bruce on the battlefield of Bannockburn. As his guerdon he received the hand of "Marjorie de Brus," the daughter of the King, from whom are descended all the royal race of Stewart.

THE VILLAGE OF ST NINIANS.

By Rev. David Smith, M.A.

Let me tell you something about the origin of this paper that you may know what to expect. In the course of my work I am brought into contact with a number of old people who have spent all their days in St Ninians, or the immediate neighbourhood. A few years ago I had many an opportunity of having a "crack" with an old man above eighty years of age, who was brimful of stories of the past, and who died in the house in which he had been born. Since then an old woman has passed away, nearer 80 than 70, and she also died in the house in which she had been born. During her long life she never set foot in a railway carriage, and her longest voyage was across the Abbey ferry and back again. Now, it occurred to me some time ago that old people like these were carrying with them into the Silent Land many stories of the olden times which it was a pity we should lose, and I resolved while I had the opportunity, to gather together as many of their reminis-

ences as I could. That was the origin of my paper. There are some things in it which I have learned from books and by using my own eyes, but in many parts you must hear the voices of the oldest inhabitants telling the story of the village of St Ninians.

St Ninians is the name the village bears. Ninian, or Ringan, which is the Scoto-Irish form of the name, was one of the earliest of our Scottish saints. He lived fifteen hundred years ago at Whithorn on the Solway, where he built the first stone church ever erected in Scotland. His headquarters were at Whithorn, but his labours extended far beyond. He wandered as a missionary over all the country between the Solway and the Clyde, and even penetrated into Stirlingshire and Perthshire. We may, therefore, take it for granted that he visited this neighbourhood and preached to the people who lived here fifteen hundred years ago. The old Roman road along which he would be almost certain to travel into Perthshire passed very close to the present village of St Ninians. The saint may even have founded the first church in the village. There is nothing improbable in such a supposition.

ANTIQUITY OF THE VILLAGE.

During the course of its history the village seems to have borne three names, Egglis, Kirktown, and St Ninians. The first mention of it is in a charter of William the Lion, c1170 Some years before, c1160, Robert, Bishop of St Andrews, had granted to the Abbey of Cambuskenneth "the Church of Egglis" (a) and King William in his charter confirmed that grant, and also a grant of which I find no previous mention of "the town of Egglis with its just boundaries in wood and in plain, and with pastures and all just appurtenances." (b) Thus we have evidence of the existence of the village under the name of Egglis in the middle of the 12th century. This remark, however, must be received with caution. The word which I have translated "town" is the Latin word "villa." Through the kindness of a friend I have obtained from one of the greatest living authorities (Dr Murray, Oxford), an explanation of this word; villa, he says, "is the same word as the French ville which now in France means 'town'; the primary meaning is supposed to have been 'country house,' 'manor house,' including the villaticum, villogium or vill-age, which sprang up beside it, and in which the vill-ani or villains lived. In English

(a) Cambuskenneth Cartulary, p. 142.
(b) Cambuskenneth Cartulary, p. 144.

charters it corresponds variously to manor, hamlet, village, township, parish, the sense having to be determined for any place or time by historical facts." In the charters Levingston, Edulston, and Thancartun, are the villa Levingi, villa Edulfi, villa Thancardi. (c) Perhaps "Villa de Egglis" was only a manor; or, from its proximity to the church and being mentioned with it in the same charter, it may have been the minister's house and the land connected with it, corresponding to the modern manse and glebe. Probably it was a township or village. At all events, we may safely say that previous to 1170 the nucleus of the village of St Ninians was in existence.

Coming down to 1242 we find evidence of the existence of the village under the name of "Kirketoun." In that year the Bishop of St Andrews made a grant of land in the neighbourhood to the "Church of St Ninian of Kirketoun," and one of the boundaries of the land in question is described as "the great road from Stirling to Kirketoun." (d) The "Kirktown" meant originally the township belonging to the minister, and carrying tithes, (e) but this charter indicates the existence of a village under that name; a name which it continued to bear until the year 1724. Since then it has been called by its present name—St Ninians (f)

Sibbald in his history of Stirlingshire 1707 (p. 23), speaks of a fine town having lately been built at St Ninians Kirk. That seems to indicate a late origin for the village. Probably, however, before the beginning of last century it consisted only of a few houses clustering round the church, like some of the small villages we have seen consisting of little more than the church and manse, the schoolhouse, police station, and post office, and if at the beginning of last century there was a spurt in the building trade, and the village grew rapidly to something like its present size, we can understand Sibbald writing as he did. We can claim for the village great antiquity, or, to be quite accurate we can claim that the ground on which the present village stands, especially the ground lying round the old churchyard, has been the site of a village for six or seven hundred years. During the past centuries it must have changed frequently. Its present buildings are not of the most substantial character, but they are the successors of a long line of ancestors in stone and lime, and wattle

(c) Cambuskenneth Cartulary, p. 142.
(d) Black on Teinds, p. 25.
(e) Stat. Acct., 1841.
(f) Innes, Early Scottish History, p. 10.

and daub, the beginning of which is lost in a remote antiquity Until comparatively modern times the village of St Ninians was the centre around which the life of the inhabitants of a considerable portion of the surrounding country gathered.

The church as well as the village has changed its name during the course of its history, but there is no difficulty in proving its great antiquity. A church is always a church, though a town may not always be a town The original name of the church was "Egglis," "Egglyge," or "Eccles," which is the Latin word "ecclesia," church. The earliest mention I can find of it is in the reign of David I., 1124-1153, when it was the "parish church of Eccles."(*g*) In 1242, in the charter granting the glebe, it is called the "Church of St Ninian of Kirketoun." And in 1275, in another charter it is called the "Church of Kirkis"(*h*) It was evidently the mother church of the district. There is reference to its "Chapels" in a charter c1170; (*i*) and a bull of Pope Celestine, 1195, confirms the Abbot of St Mary's Stirling, in possession of the "Church of Egglis with the chapels of Dunipace and Lithbert, and its other chapels and oratories." (*k*) There can be no doubt that there was a church at St Ninians seven or eight hundred years ago. The subject, however, is too large for me to treat exhaustively. The church deserves a paper to itself.

ST NINIANS IN RELATION TO STIRLING.

At present it would take eleven or twelve places of the size of St Ninians to make one town of Stirling. The population of the village at last census was 1381, and that of Stirling, exclusive of the village, over 15,000. There was not always such a difference between the two in population. In a Gazeteer of Scotland of date 1803, the village is said to have contained 3500 inhabitants, and in the statistical account of Stirling, 1842, we are told that the population of Stirling in 1792, had been ascertained by accurate survey to be 4698. Allowing that the figures for St Ninians, being in round numbers, are a little exaggerated, we may safely say that a hundred years ago Stirling was only about one and a half times the size of St Ninians. Another evidence that the two places were once on more of an equality as regards size, and that the city on the Castle Rock saw a formidable rival in the village at the St Ninians

(*g*) Innes, Early Scottish History, p. 16.
(*h*) Cambuskenneth Cartulary.
(*i*) Cambuskenneth Cartulary.
(*k*) Cambuskenneth Cartulary, p. 42.

Kirk, is found in the history of the village Fair and Market. These were both instituted in the year 1705, and were evidently regarded as a menace to the prosperity of Stirling. The Town Council took every possible step to have them closed, without success, however, as we shall see, for before I am done I must give a fuller account of the village Fair and Market.

Going much further back there is evidence of a time when Stirling was in the parish of St Ninians. During the reign of David I., 1124–1153, a dispute arose between the Chapel Royal of Stirling and the parish church of Eccles, within which parish the Castle and town of Stirling stood. The matter was of such importance, that it was decided in presence of the King, his son Prince Henry, and their barons. The following is the decision as we find it in the register of Dunfermline Abbey :—"This is the agreement which was entered into at the Castle of the Maidens, before King David and Henry his son and their barons, between (Robert), Bishop of St Andrews (within whose diocese the parish of Eccles lay, and (Galfrid), Abbot of Dunfermline (who had a right to the Chapelry of the Castle), regarding the parish church of Eccles and the chapel of the Castle of Stirling. The King's barons remembered, and in that remembrance all agreed, that on the day when King Alexander caused the aforesaid chapel to be dedicated he granted then to the chapel the tithes of his domains in the soke of Stirling, whether they increased or decreased. And further they considered that the parish church of Eccles ought to have the whole tithes accruing from the herdsmen, bondmen, and gresmen, with other dues which they owe to the church ; and those of them who may die, whether servants of the demesne lands or of the parish, their bodies shall lie in the burying ground of the parish, with such things as the dead ought to have with them to the church, unless by chance any of the burgesses die there suddenly. And if the domains shall increase, either by the grubbing out of wood, or the breaking up of land not tilled before, the chapel shall possess the tithes ; and if the lands of other men of the parish increase, the parish church shall have their tithes ; and if more men dwell in the demesne lands than in times past, the tithes of these and of all cultivators shall go to the chapel, while the parish church shall have their bodies ; and if the lands which are not of the demesne shall increase in the number of dwellings, the parish church shall have their tithes, and to all the church shall minister Christian rites on account of the dignity of sepulture." Thus there was

a time when the inhabitants of Stirling, although no doubt being regarded as members of the royal household they worshipped in the King's private chapel in the Castle, were parishioners of St Ninians, and had their parish church and churchyard in the village.(*l*) Probably at a still earlier period the church at St Ninians was the only one between the Carron and the Forth The name, "Eccles," *the* church, seems to indicate that such was the case. Since then there have been great changes. Three parishes have been carved out of the original parish of St Ninians—Dunipace, Larbert, and Stirling. The village itself is now part of the burgh and parish of Stirling, and at no distant date is certain to disappear. When that day comes, and the old village has disappeared, let us hope that something will be done to keep alive its memory, if only by retaining some of the old names, such as "Calton," "Weaver Row," "Kirk Wynd," and St Ninians itself.

THE MAIN ROAD.

Before asking you to accompany me in a walk through the village I have something to say about the road that passes through it. In the Ordinance Survey map the old Roman Road, which must have been the main road before the present one was made, runs between Coxithill and the present road. As far as I can gather from careful enquiry this road after crossing the Bannock burn at Milton diverged from the line of the present road through the Whins, and passing the Schoolhouse went over the top of Brock's Brae and by Coxithill, cutting the line of the present road by Weaver Row and going into Stirling to the west of the present main road. The footpath from the Whins of Milton Schoolhouse to near the Borestone is part of the Roman Road in the Ordinance Survey map, and in Weaver Row there is still a portion of an old road running in the line which I have indicated. There is this also to be said in proof of the existence of this old road between Coxithill and the village, the old branch road to Cambusbarron and Touch lay to the left of the present road, when one's back is turned to St Ninians. It passed through the farm of Bearside, where traces of it were to be seen in 1841.(*m*) That seems to indicate a junction with the great road running north and south at a point nearer Coxithill than the present junction. We cannot tell when the present road through the village was made. There

(*l*) Innes, Early Scottish History, pp. 16, 17.
(*m*) Stat. Acct.

was very little attention paid to roads in Scotland until far on in the 16th century, when coaching was introduced We may assume that the Roman Road was the main road at the Battle of Bannockburn, although the present road may have been at that time a footpath. The traffic through the village is probably greater now than ever it was, but its character has greatly changed even within the memory of people still living. Farmers' carts and gigs, grocers' and bakers' vans, private carriages and the Bannockburn buses have taken the place of the long strings of coal carts from the Auchenbowie and Bannockburn collieries, and the heavy carriers' carts. Twice a day within the memory of people still living the mail coach passed through the village for Glasgow, and once a day for Edinburgh After the opening of the Edinburgh and Glasgow Railway a coach ran through the village three times a day for Castlecary. We can fancy we see the steaming horses toiling up the brae in the middle of the village, steeper then than now, nearing the end of their long journey from the south; and the sleek steeds fresh from their stable in Stirling as they pass in the opposite direction. We have accounts of more than one dreadful snowstorm in those old coaching days. A notable one occurred in 1823 in the month of February, when the guards of the Edinburgh and Glasgow coaches, in trying to reach Stirling on horseback, stuck fast at St Ninians, where the snow lay from ten to twelve feet deep, and an old man who died a few years ago remembered having seen the Glasgow coach sticking fast in the snow at the foot of the brae leading up to Whins of Milton and the guards setting out on horseback with the mails. Many a gay cavalcade of lords and ladies must have passed through the village when royalty had its home in Stirling, and the inhabitants must often have looked on the passing of armies. Not to mention Bruce with his thirty thousand heroes, Cromwell with his Ironsides must have passed through the village when he came within cannon shot of Stirling. Prince Charles passed through on two occasions with his wild Highlanders, who left behind them a mark that remains to this day. The Duke of Cumberland followed fast on their heels, and quartered his Hessian troops at St Ninians and Torbrex, for providing coal and candle to whom James Watson and James Wands received money from the Town Council. (n)

THROUGH THE VILLAGE.

The road from Stirling to St Ninians lies through the conjoint village of Newhouse and Bellfield. I

(n) Burgh Records, vol. 2, 284.

cannot tell exactly where Newhouse begins. In the Statistical Account, 1796, Randolphfield, the scene of the battle between Clifford and Randolph, is said to be in Newhouse. But at Mrs M'Queen's house, Ivanhoe Cottage, we leave Newhouse and enter the village of Bellfield. I do not know the origin of the name Newhouse, but Bellfield, I am told, owes its name to the fact that the ground on which it is built belonged to a man named Bennet whose wife or daughter was Bell Bennet, hence Bellfield. Bennet lived in a house which stood by itself nearly opposite the Free Church Manse, and is still remembered by old residenters. Newhouse was the scene of the murder, in 1571, of the Earl of Lennox, Regent of Scotland. It was during the troublous days when Mary was a prisoner in England, James VI. little more than an infant, and the country was torn with the dissentions of the King's and Queen's parties. Lennox was in Stirling with the King and other leaders of his party, when suddenly, one September morning, between three and four, 300 horsemen with 80 musketeers mounted behind them, belonging to the Queen's party, burst into the sleeping town. Lennox and the Earl of Morton were made prisoners, but before their captors could make good their escape with them and their booty the troops in the Castle and the inhabitants of the town awoke. The Queen's party was driven from the town and pursued as far as St Ninians. At Newhouse, one, James Calder, fired a shot which struck the Regent in a mortal part and he died in a few hours.(o) The spot where he received the fatal wound was marked by a heap of stones which was only removed in 1758, when the road was improved. This heap of stones lay on the main road opposite the entrance to Clifford Park My informant is an old man whose father lived in a house that stood on the site now occupied by the Clifford Park Lodge, and who has often heard his father and other old people speak about the Regent's death and the heap of stones that had marked the spot where he received the fatal wound.

THE GLEBE.

Passing through Newhouse and Bellfield we come to the St Ninians Glebe. Originally it was much larger than at present. In 1242 David (Benthani), Bishop of St. Andrews, granted in name of endowment to the "Church of St Ninians of Kirketoun, the land which lies near the said Church on the north

(o) Burton's Hist. of Scot., vol. 5, 40.

side, between the great road which extends from Stirling to Kirketoun, and the footpath which goes from that great road and stretches to the bishop's houses situated near said Church."(p) Bailie Ronald, in his able paper on the Old Lands in and around Stirling, (q), takes that to mean the land between the present main road from Stirling to St Ninians and the road and footpath from Mr M'Jannet's property by Braehead to the Calton where there evidently were, in the thirteenth century, houses which were known as the "Bishop's houses.' I have little difficulty in accepting the footpath by Braehead as one of the boundaries of the original Glebe. It is undoubtedly very old and probably was the road from Cambuskenneth to St Ninians, between which places there was much coming and going for a hundred years before this date. Is it not, however, assuming a good deal to say that the present main road existed in the middle of the 13th century, and that the footpath joined it at Mr M'Jannet's corner? The Roman Road, which lay nearer the King's Park than the present main road, may have been the great road referred to in the Bishop's Charter, in which case the Glebe would lie on both sides of the present road. I am only a beginner, however, in the antiquarian line and am unwilling to cross swords with such a veteran as Bailie Ronald. I am not prepared to say he is wrong in the limits he ascribes to the original Glebe, but I venture to take refuge in Sir Roger de Coverley's verdict—much may be said on both sides Whatever were the exact boundaries of the Glebe in the 13th century it has shrunk to very small dimensions compared with what it was Part seems to have come into possession of the town of Stirling, for the land opposite South Lodge, Randolphfield, and Clifford Park was once known as the Town Croft.(r) Afterwards it became part of the estate of Wester Livilands. The present Glebe lies between Bellfield and Kirk Wynd.

THE VILLAGE.

We have reached the village at last. A few doors past the inspector of poor's office we see two curiously sculptured stones built into the front wall of the houses. One bears the date 1723, with an unmistakable representation of a number of blacksmith's tools. This stone is said to mark the site of the old village smithy. The other, the date of which is 1724,

(p) Cambuskenneth Cartulary, p. 142.
(q) Trans. 1890-91, p. 31.
(r) Trans 1890-91, p. 24.

was evidently a brewer's sign. On the other side of the road Mr Wm. Aitken has his bake-house up the "Howf Close." Mr Aitken thinks his house was at one time the village inn, in which case the "Howf Close would be the stable entrance.

Kirk Wynd, until the erection of the present Free Church was a narrow lane. Passing up to the churchyard, we have on the right hand Parliament Close, a place where weavers and nailers used to have their workshops. Being great politicians they formed, I suppose, a sort of village parliament, hence the name Parliament Close. The churchyard is here the centre of interest, and I must ask you to linger in it with me for a little. There are in reality three churchyards in St Ninians. The one round the present church is of the same age as the church, which was built in 1750, and it belongs exclusively to the heritors In 1836 there was an addition to the old churchyard, from which it is separated by a wall. The old churchyard is the one in which the tower stands, and it must have been a burial place for seven or eight hundred years. All the graves in it lie east and west, and that alone indicates great age. *(s)* Long ago men attached great importance to the direction in which the dead body was laid in the grave, and there is a remarkable consensus of custom for laying it east and west, sometimes with the head to the east and sometimes to the west This practice evidently originated in sun worship, and the head was turned to the west or the east according as the dead were thought of in connection with the sunrise, the home of the deity; or the sunset, the region of the dead. In Christian burial the pagan practice was continued, but for a different reason. The body was laid on its back with the feet to the east, to indicate that the dead were waiting for the resurrection at the coming of the Sun of Righteousness. There is also a tradition that this was Christ's posture when he was laid in the grave. *(t)*

There is nothing of note among the headstones in the churchyard. The oldest date that can be deciphered is 1604. It is on a stone which bears the name of Corsar, and it marks the burying-ground of a family of that name still resident in the village. Many a noble family would be glad to have such an evidence of long descent. Few notable men have been buried in the churchyard. Within the portion of the old churchyard still standing is the grave of

(s) Ency. Brit. Funeral Rites.
(t) "Urn Burial," Brown, chap. III.

Sir Hew Paterson of Bannockburn, the friend and entertainer of Prince Charles, and graves belonging to the Touch and Sauchie families. In other parts of the churchyard are the graves of many of the old lairds belonging to the parish; and, to come to modern times, that of William Robertson, the poet-preacher. Their bodies are all mingled now in a common element of dust with those of many generations of men who have lived and died under the shadow of the old church tower.

The upper part of the tower which stands in the churchyard was rebuilt in 1734, for in that year the Stirling town treasurer paid "eight pounds Scots as the town's proportion out of the lands of Bennie's Croft and Bizet lands for rebuilding the Steeple of St Ninians." *(u)* The lower portion of the Steeple is of much older date, and we may mention in passing that the wall enclosing the old Churchyard was rebuilt with stones taken from the Earl of Mar's house in Stirling *(v)* The clock was evidently put into the Steeple when it was rebuilt, as it bears the date 1735 Andrew Dickie, Stirling, was its maker, and I am told he also made the clocks in Broad Street Steeple and Dunblane Cathedral. The St Ninians clock is not a bad one, with the exception of a few vagaries. It will not keep time with any other clock in the neighbourhood, which may be the fault of the other clocks. And the long hand loses five minutes every hour in toiling up from the half-hour to the hour, but fortunately it gains five coming down the other side. The Steeple evidently got a new bell forty years after it was rebuilt, for the present bell bears the maker's name and date—"Pack & Chapman of London, Fecit 1774," and has the following legend running round it—

> "Such wondrous power to musick's given,
> It elevates the soul to heaven."

There is many a church without a steeple, but in St Ninians we have a steeple without a church. The portion of the old church still standing, and which is called the Schoolhouse, must be very old, possibly 400 years old. It shows that the old church must have been a large and substantial building with some architectural pretensions. A pamphlet, giving an account of the destruction of the church, to which I shall refer immediately, speaks of it as having been one of the largest churches in Scotland, capable of holding 4000 people. What is left of it is certainly pre-Reformation, and that alone is an evidence of the

(*u*) Burgh Records, vol. 2, p 230.
(*v*) Nimmo, p. 342.

importance of the old church, for there were few stone parish churches at the Reformation. The naturalist can reconstruct the skeleton of an extinct animal out of a single bone, and I would not despair of being able to rebuild the old St Ninians kirk out of the material furnished by the Session records; but that would take time. Now, I can only tell you how the church ceased to exist. We owe its demolition to Prince Charlie and his Highland host. These worthies made their appearance in the village in the month of September, 1745, on their way south to Prestonpans and their fruitless march into England. In the following January they again appeared with their faces in the opposite direction. They were retreating before the Duke of Cumberland. The Prince remained in this neighbourhood for the greater part of a month, during which time he took the town of Stirling after a short siege, but failed in an attempt to take the Castle. He quartered his troops at St Ninians and Bannockburn, and they being in want of a proper place to store their powder, put it in the Parish Church. And when they had to retreat on the 1st of February, on the near approach of the Duke, the gunpowder in the church exploded. Ten country people and some Highlanders were killed, and the church was blown to pieces.

I have seen a copy of a pamphlet which was published the same year, and which gives an account of the explosion by one who was on the spot when it occurred, and who took pains to find out the truth about it. The pamphlet is entitled, "A true and impartial account of the blowing up of the Church of St Ninians on the 1st day of February, 1746" The writer charges the rebels with having destroyed the church out of pure malice. According to him this is what took place. One of the captains in the rebel army gave orders the night before to the constable to provide twenty men out of the town of St Ninians to be ready to obey his orders next morning With difficulty the men were secured. Ten were detained in the captain's quarters and ten in the constable's house. Their names were taken down, and they were told if they went home their houses would be burned down. Next morning the ten in the captain's quarters were ordered to the church to carry out the powder to the churchyard. They took out nine barrels each containing eight Scots gallons, and with the powder a train was laid from the magazine in the church to the door, and from the door 24 or 25 feet into the churchyard. The train was a foot deep, and what was left of the nine barrels was laid in a heap

at the end of the train. Inside the church there were 100 barrels of powder, several of them with their heads knocked off. All being now ready, the Prince having just passed through the village, the train was exploded and the church blown up. Such is the story as told in this pamphlet. The writer has no hesitation in saying that the rebels meant to destroy the church, but the histories generally represent the explosion as having been accidental.

The Session minutes contain a few references to this event. Twelve days after it the Session met, and after prayer, "the Beddal was interrogate what of the utensiles were left after the late burning of the church," and he replied—"The trams of the litter were safe, as also the big mort-cloths, saddle-cloths, and the cloath of the litter." Upon hearing this the Session gave orders that the litter be immediately repaired and a new tent made.

In the month of June following we find this entry in the minutes, "The three plane-trees damnified by the blowing up of the church, were ordered to be sold to ye best advantage." Divine service was evidently conducted in the open air during the summer months, but the approach of winter made the session think of some other arrangement. Accordingly, near the end of August, it was agreed to hire some house through the winter "to prevent the inconvenience of preaching without," and at the next meeting an offer was made of the use of the West Kirk, Stirling. This offer was accepted, and till the end of 1750 the parishioners worshipped in the glebe in summer and in the West Kirk during winter. The last entry in the minute book concerning their occupancy of the West Kirk is not flattering to them, it is as follows:—"It being represented that a great many seats in the West Church of Stirling were broke down through the unruliness of our people, and that the minister had ordered them to be mended, the session order the box masters to pay the said account, extending to the sum of —— sterling."

Meanwhile the new church was being built, but not without a little friction between the session and the heritors. The former body had early in the century enlarged the church by building an aisle with the poor's money. This aisle, of course, belonged to the session, not the heritors. It had cost the sum of £445 to build, was 50 feet square, and the revenue derived from letting the seats in it was used to help the poor and to purchase mort cloths. (Pamphlet.) Now, when the church was destroyed, the session wished to dispose of the "Area of the Isle and

materials thereof to the heritors for a satisfying equivalent." At first the heritors refused to give anything, but at last they agreed to give ten pounds fourteen shillings sterling, which offer the session accepted. The new church was then built and opened for public worship at the end of 1750, or early in 1751. Why it was not built on the old site I cannot tell, unless it was meant to be a temporary erection in the hope that the Government would rebuild the old church which had been destroyed in the "unnatural rebellion."

There was another occasion when the people of St Ninians worshipped in the open air while waiting for a church to be built. At the Disruption, fifty years ago, Mr Greg, the parish minister, and the great body of the congregation left the Established and joined the Free Church. For four months that summer they worshipped in the open air in the churchyard, and during these months I have been told there was not a single wet Sunday Mr Greg preached from a tent which stood in the churchyard not far from the end of the old manse, which is now occupied by Mr Archibald. The old Free Church, now the Established Church Hall, was opened in September, 1843, and the present church in June, 1885.

We shall take leave of this most interesting part of the village with the remark that tradition points out the Calton as the place where the original Parish School stood, and there we probably have some of the oldest houses in St Ninians.

WEAVER ROW.

We shall now step into the Weaver Row. The very name is suggestive. It makes us think that we hear the sound of the shuttle An old man of eighty who was a weaver until the trade left the district, can remember when there were 200 weavers in the village and many of them resided in Weaver Row. In his youth there was a class of tradesmen known as country weavers, who made checks for gowns, plaiding for men's clothes, sheets and blankets, &c, out of the yarn which the women in the neighbourhood had spun on their wheels. These were succeeded by the cotton and tartan weavers, who wrought for the small masters in the neighbourhood or the big merchants in Glasgow When a web was finished it was sent up to Glasgow by the carrier, and the weaver followed next day, often on foot, to find a merchant for it. They were a sober, industrious, lot of men, the weavers; great radicals, and wonderful hands at

dissecting a sermon. Often in St Ninians, at the beginning of the century, at the meal hour, or when the weavers left the loom on the arrival of the coach from the south, debate must have run high on the policy of the great Pitt, the last movement of Boney or Wellington, or the last Sunday's sermon.

One notable man was born in Weaver Row The house which is now occupied by Mr Tait, dairyman, once belonged to a man named Buchanan, who was a brewer and farmer. The remains of his brewery may still be seen behind the house. This man had a son who became famous as Dr Robert Buchanan, one of the leaders in the Free Church at the Disruption. He was educated at the parish school of St Ninians and the University of Glasgow. In 1827, he was ordained minister of the parish of Gargunnock; three years later he was translated to Salton near Edinburgh, and three years after that he became minister of St George's, Glasgow. At the Disruption Dr Buchanan sided with the party which formed the Free Church, and become a leader in the ecclesiastical strife He wrote the well known account of the Disruption, "The Ten Year's Conflict" One of Dr Buchanan's sisters married Dr Robert Lees of Greyfriars Church, Edinburgh, a well-known man in his day.

THE MAIN STREET.

We return now to the Main Street of the village. Before going down the brae let me draw your attention to the fact that we are evidently leaving behind us the site of the ancient village of St Ninians, and entering its more modern part Originally the village seems to have clustered round the church, and we have found in close proximity to the church and churchyard and manse, the village school, the inn, and the blacksmith's shop. This part of the village is redolent of ancient memories of bishops and abbots and friars, but the part we are now to explore has no memories that go as far back. Here and there we may find a stone over a door bearing a date in the 17th century, but such stones have probably done service in previous buildings, and it is a long cry from the 12th to the 17th century.

Many in passing through the village to-day are not aware that in doing so they cross the town burn at the foot of the hill. Forty years ago they could not have done so, for the burn was then crossed by an old fashioned bridge, high in the centre, like the one at Chartershall. The bridge is still there, but the level of the road has been raised, which accounts for the fact that one has

to go down a step or two to get into some of the houses in the hollow of the village. The burn itself seems to have different names throughout its course. I have heard it called the Town Burn; in the title deeds of an old property in Weaver Row it is called the Kirk Burn; and I have been told that the slope on which the Post Office stands used to be called the Red Burn Brae, which seems to indicate a third name for the stream

At the foot of the hill going along the Main Street there is a well which used to be thought the best in the village. It is at the burn side in the close beside Mr Corsar's shop. This close used to be known as Finlay's, because it led to a tanyard belonging to a man of that name, who was succeeded by a tanner named Smart. The well is now in a dilapidated state, but it used to be the chief source of the water supply of the village, and was much frequented by people passing to church. There were other public wells in the village, but Finlay's was considered the best.

Before leaving this part of the village I am tempted to say something on the subject of clocks. Going about the country side I see many old eight-day clocks bearing the names of Somervell, Harvey, and M'Gregor, all of St Ninians. These were three well known watch and clock makers at the beginning of this century. Somervell's shop was at No. 64, and he died in 1824, leaving behind him a number of enduring monuments in the shape of eight-day clocks. Somervell had two apprentices, one of whom was the father of the late Duncan M'Gregor, at whose death the village ceased to have a watch and clock maker of its own. The other was Geo. Harvey, who carried on business in St Ninians, but removed to Stirling in 1806, where his business is still carried on under the firm of Harvey & Hunter. The Harveys are said to have been of French descent, and to have come to this country on account of the persecution of the Huguenots. Mr Harvey married a Miss Jeffrey, whose father was a tanner in the village. He was a man of high character, and held the office of deacon in the Congregational Church, Stirling. On Sundays he used to walk to Carronshore to conduct a Sunday school, where he had as one of his scholars Robert Moffat, the future African missionary, and father-in-law of David Livingstone. Mr Harvey's house and place of business was at 59 Main Street, where his workshop may still be seen, and a little press in the window with a glass door upon it, in which he kept his stock of watches. In this house Mr Harvey's son,

George, was born in 1806. After receiving the ordinary education he was apprenticed to a bookseller in Stirling. He was a born artist, however, and all his spare time was devoted to drawing. His first picture, which was a representation of some trout he had caught at Swallow Ha', was sold to the editor of the *Stirling Journal* for 5s. In 1824 young Harvey entered the Trustees' Academy in Edinburgh as a student of art, and soon became famous as an artist. He was one of the founders of the R.S A., and in 1864, on the death of Sir Jno Watson Gordon, was elected its president. Three years later he received the honour of knighthood, and he died in 1876, the Jubilee year of the Academy he had helped to found. Two of Sir George's pictures are in the Scottish National Gallery, viz., "Quitting the Manse," and "Dawn revealing the New World to Columbus." Many of his other pictures are well known from engravings, for example, "Curlers," in which a number of St Ninians worthies are said to figure.

When we get out of the hollow in the middle of the village we come to Prospect House. The name is modern Formerly it was known as the Ark for what reason I do not know unless it was for the number of animals it contained. Behind Mr Jenkins, the fruiterer's premises, there is a park which is called the "Drum" park. Tradition says a drum was found there after the explosion at the church in 1746. I suppose it flew through the air and lighted in this park. Tradition is silent as to the path described by the drummer.

BANNOCKBURN ROAD

In the Bannockburn Road there are two names which claim attention. The first is David Taylor, the St Ninians poet, who lived for sometime near the end of this road. He is not the only poet of whom the village can boast, but all things considered he is the best it has yet produced Taylor was born in Dollar in 1817, but his father removed to St Ninians when the future poet was very young, and he lived there until he died in 1867. Taylor was by trade a handloom weaver, and he has left behind him the reputation of a quiet, inoffensive man. I shall say nothing about his poems. They have recently been published in a neat volume.

The other name associated with the Bannockburn Road is that of Dr Robert Christie, Professor of Theology, Alleghany College, U.S Some of us had the pleasure of meeting Dr Christie last summer and the summer before, when he spent his holidays in our midst. Dr Christie is happily still alive, and can

hardly, therefore, be considered a fit subject for an Archæological Society We shall pass on after mentioning that he was born in the second last house in the Bannockburn Road.

We shall now retrace our steps and have a walk along the Glasgow Road. On the right hand side we pass the U.P. Manse, where at the beginning of this century Alex S. Logan, son of the Relief minister of that name, was born. He was the eldest son of the family, and received his education at the village school and afterwards at the Universities of Edinburgh and Glasgow. At the former of these Universities, in Professor Wilson's class, he wrote the prize essay for the year, and brought the prize home to St Ninians, where, no doubt, it was sufficiently admired by the villagers. Young Logan was very popular in the village where he was known familiarly as Sandy Logan. He found a wife in the village, for he married the daughter of the parish minister, and thus in their persons the two churches were united. In 1835 he was called to the bar where he soon had a large and lucrative practice. He was also appointed Sheriff of Forfar, and was very popular in Dundee. Had he lived he would in all probability have been raised to the bench, in which case, if any of his old St Ninians friends had committed offences of sufficient importance to be tried by the Court of Session, they might have had the satisfaction of being tried by one of themselves. Alas! Logan died at the early age of 51 There is a kindly notice of him in the Horæ Subsecivæ, by his friend Dr John Brown, author of "Rab and his friends."

CHARTERSHALL HOUSE.

In front of Mr Jeffrey's house, opposite the tanyard, there is an interesting link with the past in the shape of two stone balls on the steps leading up to the front door. Mr Jeffrey tells me that when he was a boy these stones were in his father's garden at Chartershall, and that the story about them then was that they had been taken from the old Mansion House at Chartershall. I can believe that this is true, for there was undoubtedly at one time a Chartershall House, and a glance at the houses in the little hamlet of that name will show that stones have been used in building them which formerly were part of a much more pretentious building. Sibbald, writing in 1707, mentions Chartershall among the gentlemen's seats in the neighbourhood, and gives John Wingate as the name of the laird. In the session records there is frequent mention of the Laird

of Chartershall, and during the earlier part of the last century there is a John Wingate of Chartershall whose name appears frequently though not creditably in the session minutes. The house, some people speaks of it as the castle, stood near the present Chartershall Farmhouse. There are people who can remember a little house that stood by the road side near the farmhouse which was called the gardener's house, although there was no garden near it save its own little patch. And a farmer who has ploughed the ground near where the old house stood tells me the soil was very fine such as one would expect in ground that had been used for a garden. There is nothing left of this mansion house but a few stones built into the walls of the houses in the hamlet, and the two stone balls in front of Mr Jeffrey's house.

THE NAIL TRADE

If St Ninians is famed for anything it is for nails. Nails are still made in the village by machinery, but hand made nails are an extinct industry. Whence and when this trade came to our village we do not know. An old nailer of 74 tells me his father and grandfather were nailers before him, and that carries us back to the early part of last century. Roughly speaking nails were made in this neighbourhood 200 years ago. There were two kinds of nails made, and the one was a much older industry than the other. I cannot discover a time when common nails were not made in the village. Long ago they were made from scrap iron, consisting of old swords, hoops, skates, &c., which were brought over in barrels from the Continent, chiefly from Holland. The nailer had first to beat these scraps into rods of a suitable size and then to make the nails. In this way a good workman could make 1000 a day. In 1865 slitting mills were introduced into England, and the nailers were supplied with nail-rods. Those were at first all of one size, and the workman had to beat them out before he could make the nails ; latterly they were made of different sizes, and with such raw material the nailer could manufacture 2000 nails a day. The old nailer to whom I am indebted for much of my information tells me that in his young days the rod iron came by sea from England to Fallin, whence it was carted up to the village.

The making of horse-nails is a very old industry. It must be as old as the practice of shoeing horses. Long ago, the man who made the shoe also made the nails and shod the horse ; but 70 or 80 years ago the principle of division of labour was adopted, and the making of horse-nails became a trade by itself. Mr

Archd. Ewing's father was one of the first horse-nailers in the district, and another old man says that 50 years ago there were not six men in the parish making horse-nails. The trade, however, seems to have grown rapidly, as 25 years ago it was the staple trade in the village and district, for it was not confined to the village, but flourished also in the Whins of Milton, Chartershall, and the country round about. The Statistical Account of 1841 gives the number of nailers as 200. Forty years ago, when there was a nailers' strike, there were 250 names on the roll of their society. Chambers's Encyclopædia (*w*) says that within the memory of those still living 400 had found employment in nail making at St Ninians. Now there is no man in the district who is continuously employed in making nails by hand.

The nailers wrought in small workshops attached to their houses. They wrought hard when they were at it, but did not hesitate to leave work for a day's fishing or curling, to take part in some political demonstration, or for some less worthy purpose. Their wages were never large; from 8s to 9s a week about the middle of the century, and I question if they ever averaged much more than 10s or 12s. Their workshop doors in many instances stood open to the road, and the sound of their hammers must have given a feeling of life to the village which is wanting now, and the gleam of their fires used to frighten the horses passing through the village. There is nothing to frighten them now.

THE FAIR AND MARKET.

Few of the inhabitants are aware that in its palmy days the village boasted of a weekly market and annual fair. Some of the older people can still remember the fair, but the weekly market finds no place in the memory of the oldest inhabitant. The story of the market and fair is interesting, as their institution led to a battle royal between the Burgh of Stirling and one of the Murrays of Polmaise; a bloodless battle fortunately, in which the weapons were charters, decretals, deputations, and doubtless a good deal of strong language on both sides, and the result of which was a victory for Murray and St Ninians.

To understand the merits of the dispute we must glance at the history of the Stirling Fair and Market. These are of very ancient date. The weekly market dates from 1226, and the charter appointing it was granted by Alex. II. *(x)* The first record of the

(*w*) Art. Nails, 1891.
(*x*) Burgh Charters, p. 6.

annual fair is in 1447, in which year James II. granted the burgh a new fair to be held annually with the same privileges "wherewith the said community hold or possess, or of old were in use to hold and possess their fair at the feast of the Nativity of the Virgin." *(y)* In 1678 Charles II. confirmed these previous charters, and in doing so promised "on the word of a prince" never to grant the privilege of having or holding a weekly market or annual fair within two miles of Stirling. *(z)* Now St Ninians lies within that limit. Hence the dispute.

Part of the village of St Ninians is built on the lands of Balquiderock, an estate which has belonged for centuries to the Murrays of Polmaise and Touchadam. John Murray in 1705 obtained from the Scottish Parliament permission to hold two annual fairs and a weekly market on these lands. The fairs were to be held on the 1st Tuesday of July and the 2nd Thursday of November; the weekly market was held on Tuesday. *(2a)* How long the two annual fairs were held we do not know, but evidently after a time the winter one was dropped, if indeed it ever was held. The old people whose memories go far enough back remember only one fair, and it was held on the 3rd Thursday in June. The place where the fair and market were held was on the ground between the Borestone road and that by Whins of Milton; and the fair in its best days covered the ground between those two roads from the foot of the Borestone Brae in St Ninians over to Chartershall.

Naturally, these proceedings on the part of Murray of Touchadam roused the ire of the burgesses of Stirling. Did they not possess a charter, not thirty years old, signed by a king, and promising on the word of a prince that no fair or market should ever be erected within two miles of their burgh? And here was the Scottish Parliament granting permission for such within the two-mile limit. The city fathers took prompt measures. Col. Jno. Erskine, the representative of the burgh in the Scottish Parliament, at their request opposed Murray's bill; and when it was passed into law he protested and "took instruments," which latter he no doubt sent by trusty messenger to the Town Clerk of Stirling. Protests and instruments, however, did not satisfy the Town Council. Next year the Dean of Guild was sent to Edinburgh to consult Her Majesty's advocate as to the way and and manner of interrupting the St Ninians fair and

(y) Burgh Charters, p. 30.
(z) Burgh Charters, p. 171.
(2a) Burgh Charters, p. 179.

market "civilie," and a few months later Col. Erskine appeared before the Council, made report of his diligence, and produced decreit of declarator against "Polmais faires." *(2b)* This document the Council received with as good grace as possible; they passed a resolution agreeing to put it in the "boal," the press or safe in which the city documents were kept, and then went home with new light on the words of Scripture, "put not your trust in princes."

That was all the satisfaction the city fathers ever got on this subject. The Council held the decreit of declarator against the fairs, safely secured in the "boal," but Murray held his fairs and markets in spite of their parchment. Once there seems to have been an attempt to interupt the fair at Brocksbrae, for in the spring of 1707 Murray of Polmaise threatened to raise an action against the town of Stirling for "ane ryot in interrupting his fair at Brocksbrae," *(2e)* whereupon the Council bade Baillie Chrystie put the decreit of declarator in his pocket and go to Edinburgh to "do what is proper for preventing the plie." Of the threatened action we hear no more. About the same time the Council gave orders that copies of the declarator against the fair at Brocksbrae should be placed upon the most public places in the town, and that it should be intimated at the parish church doors within the Shire. *(2d)*

The town drummer was also ordered to make intimation of the same by tuck of drum through the town, and instructions were given to make "civil interruption" at Brocksbrae against keeping of the market. The last notice of the dispute which we can find occurs nearly twenty years after the institution of the St Ninians fair and market. *(2e)*

How long the weekly market continued to be held at Brocksbrae we have no means of knowing. The Statistical Account of 1841 makes no mention of it, but it mentions the annual fair in June as fast sinking into insignificance. It seems to have disappeared fully forty years ago, after having been held for nearly a century and a half. The fair was a great occasion in the village of St Ninians. When the day drew near the inhabitants were seized with a desire to "redd up" their houses and the village generally. Whitewash was in request, and the scavengering of twelve months was done in a few days. The fair day

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(2b) Burgh Records, vol. 2, p. 107.
(2c) Burgh Records, p 110.
(2d) Burgh Records, p 111.
(2e) Burgh Records, p 18 4.

was a general holiday, and the fair was attended by a large number of people from the neighbouring country and regions beyond. Between the Glasgow Road and that by the Flag Staff, from the foot of the Borestone Brae over to Chartershall the ground was covered with sheep and cattle; Merry Andrews and Cheap Johns of every description; staid farmers and cattle dealers buying and selling; and lads and lasses making love as only country lads and lasses can, among whom there moved a sprinkling of village nailers and weavers and shopkeepers. And when the day's business was done the young folk danced to the music of some Wandering Willie far into the June night, and the village alehouse drove a roaring trade, while the older and more sober portion of the community went home and slept the sleep of the just under their home made Kilmarnocks. So passed the fair day in St Ninians.

The usual monthly meeting of this Society was held in the Committee Room of the Y.M.C.A. Institute, on the evening of Tuesday the 19th March, Col. Stirling of Gargunnock in the chair. The minutes of February meeting having been read and approved of, the Chairman submitted "Records of Rainfall in Stirlingshire for 1894." Mr M'Lellan read the "Third Report on the Land and Fresh Water Shells of Stirlingshire," and Colonel Stirling followed with "Notes on the Flora of Stirlingshire" (fifth paper) prepared jointly by Mr Robert Kidston and himself. A large number of specimens, beautifully prepared and mounted, collected in the course of the survey, was laid on the table for exhibition. At the close, in moving a very hearty vote of thanks to Colonel Stirling, Mr Kidston, and Mr M'Lellan, Mr Morris referred in eulogistic terms to the solid and important work done by all three gentlemen. Mr Kidston announced that a case had been procured, and placed in the Smith Institute, in which the interesting collection of fresh water shells made by Mr M'Lellan would be arranged, for the purpose of study and examination.

RECORD OF RAINFALL IN STIRLINGSHIRE FOR 1894.

By Col. Stirling of Gargunnock.

I have made out a table (Tab. I.) of the rainfall for the same stations in the county as I put before you

last year, and there are one or two points in connection with it which I should like to bring to your notice.

For the first two months in the year the rainfall was excessive, and for the two months from about the 20th August till towards the end of Oct. it was about the smallest on record. At Gargunnock 27·27 in. fell between the 1st January and the 13th March, and only 0·725 in. between the 21st August and the 23rd October. At Glengyle at the head of Loch Katrine, which is the wettest part of the whole county of which there is any record, 44·70 in. fell in January and February, and actually no rainfall in the month of September.

The Rev. Mr M'Donald, in his return from Buchlyvie, remarks—"Rainfall, 7·01 in. more than the average of last 5 years, and 11 in. more than in 1893. In January and February 22·20 in. fell (very nearly half of the average for the year), followed by a fairly dry spring and a very dry autumn. From March 20th to April 7th, only 0·03 in., and from August 22nd to October 8th, 48 days, only 0·32 in. fell. The amount in September was only 0·21 in. These periods of drought mark out 1894 with its great rainfall, as a most remarkable year. It yielded the largest rainfall for the whole year, and February gave the largest, and September the smallest monthly total during recent years." Sir James Buchanan, in his return from Craigend Castle, remarks that "January was wet, February stormy and very wet, first half of March wet and stormy, and in September no rain fell for 15 days."

In March of last year Mr Gale, the engineer of the Glasgow Water Works, was kind enough to send me a report on the extraordinary rainfall during January and February, from which it appears that 44·70 in. fell at Glengyle, and 35·60 in. on Ben Lomond, both being in this county. And in a note he says—"Taking 44 in. of rainfall over the area draining into Loch Katrine, the quantity of water which ran off the ground during January and February was sufficient to supply Glasgow with 60,000,000 gallons a day for a whole year."

I have made out a second table (Table II.) for the rainfall in two stations in Perthshire, which are just over the boundary of the county, for comparison. They are from Ochtertyre, sent to me by Captain Dundas, and from Causewayhead, sent to me by Mr M'Dougall.

TABLE I.—RAINFALL IN STIRLINGSHIRE.—1894.

Stations.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Polmaise Garden,	6·45	11·47	3·29	1·98	2·02	2 47	2·34	3·91	0·10	3·53	2·50	3·75	43·81
Little Denny,	5·4	14 4	3·1	2·0	3·0	3 0	3·1	4 5	0 5	5·3	3·0	3 0	50·30
Faughlin,	7·2	*	*	2·4	3·7	3·3	3 0	5 8	0 6	5·6	5 1	3 6	*
Victoria Place, Stirling,	7·11	9 70	4·61	2·05	2·50	2·65	2·71	3·98	0·14	3·87	3 20	3·65	46·17
No. 3 Reservoir, Touch,	6·90	11·05	5·15	2·65	3 60	1·60	2·85	4·80	0·35	3 65	4·85	4·40	51·85
Gargunnock House.	8·97	12 55	4·83	2·27	2 90	2 90	2·97	4 21	0 27	3 81	4·06	4·16	53·90
Earlsburn Reservoir,	8·9	14·8	4·5	2·8	4·7	4·2	3·3	5·7	0 7	5·4	5·5	3·7	64·20
Garden House.	...	...	...	...	...	...	...	...	...	...	...	...	56.28
The Manse, Buchlyvie,	8·99	13·21	4·66	1·54	2·35	3 76	3·77	4·40	0·21	4·04	3 80	3·40	54·13
Craigend Castle.	8·45	13·55	4·43	2·01	3·40	3 95	3·42	5 95	0·31	4·92	5·08	5·48	60·95
Mugdock Reservoir,	6·70	11·90	3·13	1 87	3·30	3·30	3·55	4·65	0·10	4 00	3·80	4·25	50 55
Head of Duchray Valley, Ben Lomond, 1800 ft.	15·60	20·20	9·20	3·50	3·60	3·70	5·30	4·90	0·00	5·50	10·70	8·90	91·10
Glengyle—380 ft.	21·50	23·20	8·90	2·10	2·50	3 40	6·20	5·80	0·00	5·40	11·90	10·80	101 70

* The rain gauge at Faughlin Reservoirs was out of order during February and part of March.

TABLE II.

Rainfall at Ochtertyre and Ravenna Cottage, Causewayhead, Perthshire.—1894.

Ochtertyre—Jan., 7·83; Feb. 11·69; March, 3·47; April, 1·81; May, 2·69; June, 2·30; July, 2·10; Aug., 2.48; Sept., 0·48; Oct., 3·78; Nov., 3·10; Dec., 3·58: Total, 45·01.

Ravenna Cottage, Causewayhead—Jan., 7·991; Feb., 12·738; March, 2·929; April, 1·787; May, 2·544; June, 2·089; July, 2.531; Aug., 3·900; Sept., 0·155; Oct., 3·151; Nov., 2·759; Dec., 3·445: Total, 46·019.

NOTES ON THE FLORA OF STIRLINGSHIRE.

FIFTH PAPER BY COLONEL STIRLING OF GARGUNNOCK AND MR R. KIDSTON, F.R.S.E. AND F.G.S.

Last year we continued our pleasant labours in investigating the Flora of the county, and though the summer was colder than usual, still the excursions were most successful, and of the many made, on only one occasion had we a wet day.

Last season we were enabled to have a greater number of botanical excursions than in the previous year, and the season for plant collecting was of longer continuance than in 1894. It may be remembered that the summer of 1893 was very hot, and the plants kept in good condition a comparatively short time, they came with a rush and as quickly passed away, and although the weather of last year was not so pleasant to the ordinary tourist, it was better for the botanist, as the flowering season of the plants was longer continued than in 1893.

Various excursions were made in the four botanical districts into which we have divided the county for the purpose of showing the distribution of the species. In addition to excursions from Stirling as a centre, a week was spent on Loch Lomond side, making Rowardennan our head quarters. On this excursion we were accompanied by Dr Braithwaite and Mr A. Somerville. From the appended list it will be seen that the additions to the Flora are distributed generally throughout the county.

In our previous reports reference has been made to a considerable number of species which have been recorded by other botanists, but of which we had not seen specimens, and, therefore, as it has been made a rule that only those species of which we had seen authentic specimens should be included in our reports, these plants have not been included by us. In case

we may be thought to be too exclusive in adopting this course, we may be allowed again to explain why we have proceeded on these lines. The chief reasons which have governed our action in this matter are—(1) Some of these plants, though formerly growing in Stirlingshire, are now extinct; (2) Of some of the species recorded for the county, we have reason to believe that the specimens on which the records were founded came from Perthshire, and as the last reason it is probable that there may have been errors in identification This applies especially to the Hawkweeds, Brambles, Roses, and Willows. Of these groups all old records require to be confirmed, as within the last few years these genera have been submitted to critical examination, and it is found that the older identifications in many cases will not stand. Hence, as far as these four genera are concerned, the work of recording must be done *de novo*.

Last summer we went over the herbarium of the late Mr H. C. Watson, author of "Topographical Botany of the British Isles," which is now preserved in the Kew Herbarium, in the hope of finding there specimens of our desiderata, as a number of the plants of which we have seen no specimens are recorded in his work; but we only found specimens of two of these wants, viz., *Loiseleuria procumbens* and *Lathræa squamaria*. The first named has not even found on Ben Lomond, the locality for Watson's voucher, for many years, as far as we have been able to ascertain, although it may still grow there. Of the latter we have heard lately of two localities in the county, but have not yet seen specimens found there, though we hope to receive examples of it this year.

Our record for *Koeleria cristata* is from a specimen collected by Mr John Duthie in the King's Park in 1873, but curiously this plant has escaped our notice there.

On our joint excursion to Loch Lomond side Mr A. Somerville collected the following plants of which we had seen no previous specimens—*Cochlearia officinalis* var. *alpina*, *Agrostis canina* and *Cystopteris montana*.

Of some of the plants recorded for Stirlingshire by other workers, the following we believe must be removed from the list of Stirlingshire plants, and we give our reasons in each case for arriving at this conclusion. Many of these, it will be seen, are evidently now extinct—certainly from the original localities—and as they have not been found elsewhere in Stirlingshire, so far as we can ascertain, they have obviously no claim to be retained in the county flora.

The following are the recorded species for Stirlingshire which must now be removed from the lists :—

Althæa officinalis—L. This plant is recorded by Hobkirk (Flora Glottiana, 1813), as occurring "in a marshy place, Campsie Hills," but it appears now to be extinct, and it does not seem to have been met with in Stirlingshire since Hobkirk's time.

Diplotaxis muralis—D.C. This is probably an error of identification, the plant so identified being most likely *Diplotaxis tenuifolia*—D.C.

Erythræa Centaurium Pers. This plant was recorded for Stirlingshire in the "Annals of Scot. Nat. History," 1894, p. 160, by by Mr A. Bennett, from a specimen collected by Boswell Syme in 1836, now preserved in the Herbarium of Mr J. F. Hanbury. Mr Hanbury kindly sent us the specimen to enable us to include it in our list, but we find that the plant is from a Perthshire station. The label bears the locality of "Dumyet Hill, Stirling," which has misled Mr Bennett, for though "Dumyet," (more commonly called Dumyatt), is near Stirling, it is situated in Perthshire. None of the Ochil Range. of which Dumyatt forms one of the peaks, is in Stirlingshire.

Salix rubra — Huds. This is mentioned in Watson's Topographical Botany as having been recorded for Stirlingshire "on most unsafe authority," and as it does not appear to have been subsequently found, it has no claim to be continued in the list of Stirlingshire plants.

Juncus biglumis—L. This has been recorded for the county, but Watson supposed the record to be erroneous. We have hitherto failed to discover the plant, or to meet with any botanist who has collected it in the county.

Sedum rupestre—Huds. This has been recorded for Stirlingshire, but Watson believes in error. A sedum still growing on the Castle rock has been pointed out to us as this species, but it is one of the "Sedum album" group.

Epimedium alpinum—L. In Hobkirk's time this was plentiful on the ruins of Mugdock Castle. The plant has now entirely disappeared from this station. At the best it is only an introduction.

Lithospermum officinale—L According to Hobkirk this grew "on the old walls of Mugdock Castle," but like many of the records from this locality, it has long since disappeared.

Potamogeton densus—L. This was recorded from Bardowie Loch by Hobkirk, but although we have

visited the locality several times and examined the shores and dredged from a boat, we have failed to discover any trace of the species, nor are we aware that others have been more successful. We are therefore led to conclude that the plant has disappeared from this locality, and it does not seem to have been met with elsewhere in the county.

Lychnis viscaria—L. Watson's Herbarium contains a specimen labelled from "Dumyat, Stirlingshire." This locality is situated in Perthshire, so the record for Stirlingshire must be cancelled. It is, however, very strange that this plant does not occur in Stirlingshire, where there are many suitable situations in which it might grow. We have specially looked for it in many such stations.

Sambucus Ebulus—L. This species is recorded by Hobkirk as growing "in a lane between Milngavie and Dougalston," but it seems to have disappeared from that locality. Several botanists to whom we have applied have informed us that they have never succeeded in discovering the plant there.

Inula Helenium—L. This is also recorded by Hobkirk "in moist meadows and pastures about the ruins of Mugdock Castle." It has certainly disappeared from this locality.

Senecio saracenicus—L. This was recorded by Hobkirk from the "border of a field near Mugdock Castle." It has long disappeared from this station, and does not seem to have been found elsewhere in the county since Hobkirk's time.

A plant collected by us near Allander Toll, Baldernock, is thought by Mr A. Bennett to be *Potentilla mirta*—Nolte, which is a hybrid between *P. procumbens* and *P. reptans*.

Mr A. Somerville found on Ben Lomond last summer a saxifrage which Mr Bennett regarded as a form of *Saxifraga sponhemica*, but which seemed to run towards *S. hypnoides*. We have not included this in our list for District 4, as the specimens are not characteristic of the species.

True *Saxifraga sponhemica* was collected by us in 1885 from the hills above Gargunnock, and was recognised as such by Mr Bennett, to whom it was sent for examination in the early part of this year.

We have again met with a few introductions which, though not included in the "London Catalogue of British Plants," may as well be mentioned.

Echinospermum Lappula—Lehm. Bank of Forth and Clyde Canal near Twechar.

Sisymbrium pannonicum—Jacq. Bank of Forth and Clyde Canal near Twechar, and

Neslia paniculata—Desv. Grangemouth.

But the claim of British origin of some of those included in our records is not much greater, as they are certainly introductions, but from their greater frequency they have been included in the British Floras, but not as native plants.

Those introduced species recorded in the list appended to this report are

Sisyrnbrium orientale—R. Br.

Mentha sylvestris—L.

Polygonatum multiflorum—All.

The two last, though native in Britain, were clearly introduced at the stations from which we collected our plants, although in the case of the mint it has probably become established.

In our fourth report we recorded the occurrence of *Potamogeton crispus*—L. var. *serrulatus*—Regel and Maack. A further supply of specimens and in much better condition were collected last year and submitted to Mr Fryer, Chatteris, Cambridgeshire. It now transpires that our Grangemouth plant, even should it prove to be the same as the var. *serrulatus*, must have a new name assigned to it, as the name *serrulatus* had been previously used for another plant in the same genus. Mr A. Fryer has therefore described our plant under the name of *Potamogeton Bennettii*—A. Fryer—in honour of Mr Arthur Bennett, who has done so much good work on the members of this genus, and to whom all British botanists owe a great debt, not only for his work on the pondweeds, but also for his other labours in the field of British botany. —*Potamogeton Bennettii* is probably a hybrid between *P. crispus* and *P. obtusifolius*. (See Journal of Botany, 1895, p. 1, pl. 348.)

In conclusion, we have again to express our thanks for valuable assistance to Mr F. J. Hanbury for examing our Hieracia, to the Rev. W. Moyle Rogers for a similar favour in regard to the Brambles, to the Rev. G. S. Marshall for going over our Epilobium specimens, and to Mr A. Bennett for assistance in many points of doubt and difficulty.

In our previous reports 773 species and 53 varieties were included. To these have to be added from the present report 21 species and 12 varieties, making in all a total of 794 species and 65 varieties for the county, of which we have seen specimens.

LIST OF NEW RECORDS.

No.		Districts. 1	2	3	4
25-*b*	Ranunculus Flammula—L, ...				
	*var. pseudo-reptans—Syme, ...			x	x
37-*c*	Caltha palustris—L, ...				
	var. minor—Syme, ...				x
53	Papaver somniferum—L, ...		x		
78-*b*	Nasturtium palustre—D C, ...	x			
107-*b*	Cochlearia officinalis—L, ...				
	*var. alpina (Wats)—Bab, ...				x
*120	Sisymbrium orientale—R. Br, ...	x			
209	Lychnis Githago—Lam, ...			x	
212	Cerastium tetrandrum—Curt, ...		x		
259	Hypericum androsæmum—L, ...			x	
*361	Trifolium agrarium—L, ...			x	
*382	Vicia tetrasperma—Mœnch, ...	x			
424	Rubus Lindleyanus—Lees, ...			x	
439-var.	R. villicaulis—Koehl, ...				
	*var. Selmeri—Lindb, ...	x			x
476	R. Chamœmorus—L, ...				x
483	Potentilla norvegica—L, ...	x			
*489	P. procumbens—Sibth, ...			x	
502	Agrimonia odorata—Mill, ...		x		
506	Rosa spinosissima—L, ...				x
*551	Saxifraga sponhemica—Gmel, ...	x			
558	Ribes rubrum—L, ...				x
*575	Drosera anglica—Huds, ...	x			
585	Callitriché autumnalis—L, ...		x		
589	Peplis Portula—L, ...				x
590	Epilobium angustifolium—L, ...		x		
598	E. obscurum—Schreb, ...			x	
600	E. palustre—L, ...			x	
	*E. obscurum x E. parviflorum, ...	x			
	*E. obscurum x E. palustre, ...	x			
	*E. obscurum x E. montanum.			x	
	*E. obscurum x E. anagallidifolium, ..	x			
607	Circœa lutetiana—L, ...				x
608-*b*	C. alpina—L, ...				
	var. intermedia—Ehrh, ...	x		x	
626	Apium inundatum—Reich, ...			x	
677	Caucalis Anthriscus—Huds, ...				x
681	Cornus sanguinea—L, ...			x	
767	Chrysanthemum Parthenium—Pers, ..				x
797	Arctium intermedium—Lange, ...			x	
*799	Carduus nutans—L, ...		x		
809	Cnicus arvensis—Hoffm, ...				x
853-*b*	Hieracium pallidum—Biv, ...				
	var. Schmidtii—Tausch, ...	x			
859-var.	H. murorum—L, pt, ...				
	*var. microcladium—Dahl, ...	x			
869	H. prenanthoides—Vill, ...	x			
875	H. boreale—Fr, ...				x
	*H. rigidum—Hartm, var., ...	x			
889	Sonchus oleraceus—L, ...		x		
897	*Jasione montana—L, ...	x			
903	Campanula latifolia—L, ...			x	
905-var.	C. rotundifolia—L, ...				
	*var. montana—Syme, ...				x
*925	Loiseleuria procumbens—Desv, ...				x
948	Lysimachia thyrsiflora—L, ...			x	
978	Gentiana campestris—L, ...			x	
990	Lycopsis arvensis—L, ...			x	

No.		Districts. 1	2	3	4
1020	Hyoscyamus niger—L,		x		
1049	Veronica polita—Fr,				x
1050	V. agrestis—L,				x
1065	V. scutellata—L,			x	
*1091	Lathræa squamaria—L,	x			
*1104	Mentha sylvestris—L,			x	
1108	M. hirsuta—L,			x	
1114	M. arvensis—L,			x	
1131	Scutellaria minor—L,				x
1170	Litorella lacustris—L,			x	
1216-*b*	Polygonum amphibium—L,				
	var. terrestre—Lees,		x	x	
1226	Rumex obtusifolius—L,				x
1230	R aquaticus—L,		x		
1257	Euphorbia Peplus—L,			x	x
1265	Humulus Lupulus—L,			x	
1285	Salix purpurea—L,			x	
1291	S. Smithiana—Willd,			x	
1297	S. Caprea—L,				x
1314	Populus nigra—L,			x	
*1392	Polygonatum multiflorum—All,	x			
*1430	Juncus tenuis—Willd,				x
1435	J. effusus—L,		x		
1442	J. lamprocarpus—Ehrh,			x	
1442-*b*	J. lamprocarpus—Ehrh,				
	*var. nigritellus—Auct,				x
1466	Lemna minor—L,			x	
1476	Triglochin palustre—L,			x	
1488	Potamogeton nitens—Web,			x	
1495	P. perfoliatus—L,			x	
1496	P. crispus—L,			x	
1500	P. obtusifolius—Mert & Koch,			x	
1502	P. pusillus—L,			x	
1505	P. pectinatus—L,		x		
	*P. Bennettii—A. Fryer,		x		
*1510	Zanichellia palustris—L,		x		
*1525	Eleocharis multicaulis—Sm,			x	x
1531	Scirpus setaceus—L,			x	
1601	Carex panicea—L,				x
1624	C. vesicaria—L,		x		
1650	Phleum pratense—L,				x
*1655	Agrostis canina—L,				x
1656-*b*	A. alba—L,				
	*var. stolonifera—L,				x
1678	Holcus lanatus—L,				x
*1691	Koeleria cristata—Pers,	x			
1694	Melica nutans—L,				x
*1729	Festuca sylvatica—Vil,	x			x
1744	Brachypodium sylvaticum—R & S,			x	x
1746-*c*	Lolium perenné—L,				
	*var. italicum—(Braun),		x		
1750	Agropyron repens—Beauv,			x	
1773	Asplenium Trichomanes—L,				x
*1787	Cystopteris montana—Bernh,				x

Those marked with * are new records to our County List.

THIRD REPORT ON THE LAND AND FRESHWATER SHELLS OF STIRLINGSHIRE.

By A. M'Lellan.

It was stated in the second report that there had been collected for our vice-county types of 24 out of the 27 genera, and of 61 as was supposed, out of the 101 species recorded for Scotland, and that the Society might anticipate adding in the course of time possibly 25 species to that record. Illustrative lists were appended, and the opinion hazarded that there had already been collected in the county all the common species, most of the uncommon, and several of what might fairly be called the rare species of Scottish Land and Freshwater Shells.

SHELL CENSUS.

Since the date of our report the Conchological Society's referees have examined our collection. They have cancelled five of our supposed new records (Limax cinereo-niger, L. flavus, Helix rupestris, Zonites nitidus, Pisidium roseum), and have disallowed our supposed verification of the previously recorded Helix pygmæa, H. concinna, and Limax arborum.

We have found habitats for Helix caperata, and Valvata piscinalis credited to other collectors in our previous reports, and have added as new records to our list Planorbis glaber, Succinea putris, Dreissensia polymorpha, Vertigo pygmæa, and Amalia carinata. So that the corrected census stands thus :—Reported in 1893, 56 ; new records, 5 ; total in 1895, 61 species. These 61 species represent 26 genera out of a total of 27 for Scotland. The species recorded to the credit of other collectors are Helix pygmæa, H. concinna, Limax arborum (Evans), Zonites excavatus (Binnie). It will be observed that the five new records are from among the twenty-five shells suggested in our last report as probably existing in the county. We have simply to regret that their place must meanwhile be taken by the cancelled records which I have just named. I have to thank Colonel Stirling and Mr Kidston for their assistance. Their specimens of Planorbis glaber from the south-west section of the county gave us a new record for Stirlingshire.

TOPOGRAPHY.

I have also to thank the several members who have aided in working up the shell-habitats, and to make these acknowledgments. Mr Sword—Helix arbustorum (Leckie moor). Col. Stirling—Helix arbustorum (Downie's Loup), H. nemoralis (Touch), Clausilia rugosa, Pupa umbilicata (Boquhan). Col. Stirling

and Mr Kidston—Sphærium corneum, Planorbis albus, P. glaber, Valvata piscinalis, Limnæa peregra, Physa fontinalis (Mugdock). Mr Kidston—Anodonta?; Unio margaritifer (Forth). Mr M'Dougall—Unio margaritifer (Forth). I am obliged to Mr Kidston for information that enabled me to note leisurely the water-plant-feeding molluscs of the Union Canal, and to Mr Moyes for his aid in exploring Loch Coulter.

TYPES.

A very useful auxiliary to museum-drill in shell-study is a collection of types of shells likely to be found in one's district. I have to confess being indebted to several gentlemen for their assistance in this respect. Mr Morris has given me Bulimus obscurus from Antrim, and Mr Sword Helix ericetorum from Largo. Mr M'Dougall has contributed Vertigo pusilla from the Wallace Craig, and others Helix virgata and Limax flavus from England, and Helix fusca from Crieff. Mr Taylor, the referee, has sent me from Leeds a valuable set of types, among which are Paludina vivipara, Limnæa glutinosa, Zua tridens v. crystallina, Helix rufescens v. alba, H. aspersa v. exalbida, Bulimus decollatus (a most instructive specimen), and Helix aspersa v. exalbida. Among the most interesting of the group of types in my possession are two that Mr M'Dougall rightfully claims. One species came from Clackmannan, the other was picked up in South Perthshire, and there are several specimens of each. The Clackmannan shell, Zonites glaber, was discovered by Mr Scott, High School, among some sphagnum in a flower-pot, and the moss has been traced to Brucefield, Dollar. The South Perthshire mollusc, Succinea oblonga, is a native of sea-coast sand-dunes, and is classed among the rarest British shells. In 1891 it had been noted for only two Scottish counties. How a nest of them came to be found by Mr Kidston far inland and to be all sinistral is a problem worth solving. They received special mention by the Referee at the meeting of the Conchological Society held in Leeds in February, 1894. He has since informed me that he would be pleased to have living specimens for microscopical purposes Will any member gratify him? These types will, meanwhile, be an instructive supplement to the collection which this Society is now making.

LIST OF SHELLS COLLECTED.

Freshwater.—Sphærium corneum, Pisidium amnicum, P. fontinale, P. pulchellum, P. pusillum, Unio

margaritifer, Anodonta cygnea, Dreissensia polymorpha, Bythinia tentaculata, Valvata piscinalis, Planorbis albus, P. glaber, P. spirorbis, P. contortus, Physa hypnorum, P. fontinalis, Limnæa peregra, L. palustris, L. truncatula, Ancylus fluviatilis.

Land.—Arion ater, A. subfuscus, A. hortensis, A. Bourguignati, Amalia carinata, Limax maximus, L. arborum, L. agrestis, L. lævis, Succinea putris, S. elegans, Vitrina pellucida, Zonites cellarius, Z. alliarius, Z nitidulus, Z purus, Z. radiatulus, Z. excavatus, Z crystallinus, Z. fulvus, Helix lamellata, H. arbustorum, H. rufescens, H. concinna, H. hispida, H. caperata, H. rotundata, H. pygmæa, H. pulchella, Bulimus obscurus, Pupa umbilicata, Vertigo pygmæa, V. edentula, Balia perversa, Clausilia rugosa, Zua lubrica, Carychium minimum

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The last monthly meeting of the above society for the season, was held in the Smith Institute on Tuesday, April 16—Mr James Todd presiding. The minutes of meeting for March having been read by the secretary, and approved of, the following papers were read :—(1) *Notes of Discovery of Stone Cists and Urns at the Cuninghar, Tillicoultry*, by Mr R. Robertson, F.S.A. Scot, Dollar ; (2) *In the belief in the end of the world, in 1000, A.D., historical or legendary?* by the Rev. J. M. Robertson, St Ninians ; (3) *An inquiry into the term Tabyl Round*, by Mr Andrew M'Lellan ; and (4) *Notes on stone axe heads found in neighbourhood*, and *Notes on addition to bird list in Smith Institute*, by Mr James Sword, curator The axe heads and specimens of the waxwing and little awk, referred to by Mr Sword in his paper, were laid on the table for exhibition. All the papers were very much appreciated, especially those by the Rev. Mr Robertson and Mr M'Lellan, which must have cost no small amount of reading and research. Hearty votes of thanks were passed on the motion of Mr Todd to the several essayists. As it was the last meeting for the season, the chairman congratulated the society on the very interesting character of the papers which had been submitted month by month, and which would appear in the transactions, and thanked the contributors — ladies and gentlemen. Votes of thanks to Mr Todd for his conduct in the chair, and to Mr Morris for the very efficient way in which he discharged the office of secretary, concluded the business.

NOTICE OF DISCOVERY OF STONE CIST AND URNS AT CUNNINGHAR, TILLICOULTRY.

BY R. ROBERTSON F.S.A. SCOT., DOLLAR.

The Cunninghar is an elevated ridge of sand and gravel about half a mile to the east of Tillicoultry. Near the southern end close to the turnpike road there formerly stood a stone circle. This circle measured some sixty feet in circumference. The stones have all been removed and half of the site of the circle itself obliterated owing to the place having been utilized as a sand quarry. Numerous urns have been found at various times in the Cunninghar. In April, 1894 a large cinerary urn filled with burnt bones was found near the edge of the circle. On hearing of this find I went to view the place. My attention was attracted by a large block of stone protruding from the face of the quarry about four feet below the surface and exactly where the centre of the circle must have been. On a closer examination, I saw that this formed the cover of a stone cist and on removing some more of the sand, one of the end slabs was visible. Knowing the discovery to be one of importance owing to its size, and also from its being in the centre of a circle, I at once communicated with the officials of the Society of Antiquaries with a view to its being opened and examined in systematic manner. Unfortunately, news of the find had got abroad and some local busy bodies (who ought to have known better) went to the place and began poking at the cist with sticks, with the result that the surrounding soil was loosened, and before an examination could be made the covering stone and two of the slabs fell. I was on the spot shortly afterwards and was glad to find the contents of the cist untouched. The cist was of the usual form composed of four rough slabs of free stone and lay N.E. by S.W. It measured four feet nine inches in length, two and a half feet in width, and two feet in depth. The cover was a large block of granite nearly six feet long, four and a half feet wide, and of an average thickness of two feet. It is calculated to weigh from 3½ to 4 tons. A curious and interesting feature was its being elaborately ornamented with cups and rings, spirals and lines This, I believe, is an unique feature in the covering stone of a cist, and the labour of carving these with the primitive tools of the period must have been very great. The stone itself is grey granite. This is not a native stone, but blocks (prob-

ably ice-carried) are found scattered over the Ochils. The floor of the cist was composed of fine sand, all stones having been carefully sifted out. At the S.W. corner a very fine food-urn was got in a perfect state of preservation. It measured 5½ inches high, and is ornamented with lines and zig-zags, and has perforated "bosses" round the top. It was quite empty, scarcely a trace of dust inside it, showing how carefully the cist had been sealed up. A few pieces of the thigh bones were all that remained of the interment, but a chalky powder on the floor, and adhering to the north slab, showed the body had lain in a crouching attitude. A patch of the same white powder showed where the head rested at the West end, and amongst this were found several teeth, the crowns being quite perfect and proving the burial to have been that of an adult. A very interesting find was come across at the same point. This was a quantity of hairy material of a dark red colour. A microscopical examination proved it to be some kind of wool or fur, and it probably formed part of a piece of clothing or pillow for the head. The fact of this being preserved for over two thousand years, shows the cist to have been practically hermetically sealed. Underneath this woolly substance was a quantity of white "chuckies." No ornaments or implements were found. The fact of this burial being in a stone circle, the huge ornamental covering block, and the pains taken to exclude sand or dust from percolating insides, proves this to have been the burial place of a personage of great importance in his day. The urns containing burnt bones are probably subsidiary burials to the centre one, and in all likelihood will be found all round the circumference of the circle. The stone cover has been removed to the vicinity of Tillicoultry House, where those interested can view it and its curious markings.

NOTES ON STONE AXE HEADS FOUND IN NEIGHBOURHOOD.

By James Sword.

On referring to your copies of the Society's Transactions for last year, you will remember that at our closing meeting of last session Mr Morris was good enough to read us a very interesting sketch on axes of the Stone Age, and was able to exhibit a specimen of a rather uncommon variety of a stone axe of the perforated type. I had hoped that now I would have been able to add that the specimen had been handed

over to our museum collection, but as yet that is not an accomplished fact.

Again we are to hark back to the Stone Age period to finish our session, and I have brought along a number of implements of that period that form part of recent additions to the museum collection. Of the specimens now exhibited two belong to the perforated and seven to the unperforated type. Looking at the ponderous perforated implements the name of Axe which is at present applied to them does not seem very appropriate. Dr Anderson himself admits (Rhind Lecture, Bronze and Stone Age, p. 316) that they could only have been wielded with difficulty as weapons. The unperforated implements commend themselves at once as much more suitable for offensive purposes.

Referring to Mr Morris's sketch you will remember that, following Dr Anderson's division, he divides the perforated axes into three classes. The specimen he showed us represented the first class—having edges at both ends. The two implements I now exhibit belong to the second class—having one end tapered to a point or edge, and the other end blunt.

Specimen No. 1 is an unpolished but well and regularly formed implement. It is of a coarse grained dolerite, and weighs 11 lbs. Its length is 10½ inches, width across at the shaft hole 4 inches, and thickness 3⅝ inches. The form is not uncommon in this class, wedge-shaped below the shaft hole and truncated above it. The specimen is in a most interesting stage, the shaft hole being, as you see, only partly bored from each side to a depth of 1¼ inches. The boring is perfectly circular, smooth, regular, and cup-shaped at bottom, showing that whatever the instrument used it must have been drill-shaped and worked with a rotary motion. In implements of this class the shaft hole is generally placed nearest to the blunt end, and that is the case here, from the bottom of the shaft hole to the point of the wedge-shaped end is 5 inches, and from the upper side of the shaft hole to the butt or blunt end is 2¾ inches, the shaft hole is 2¼ inches across. The specimen was found a few years ago near the village of Dunning, in Perthshire, among a quantity of stones gathered off the adjoining fields.

The second specimen is of the same class of the perforated type, tapering to one end and truncated at the other. It also is from Perthshire, found in the vicinity of Perth. The material is again dolerite. It is regular in outline, and though not highly polished, has been worked to a smooth surface prob-

ably by rubbing with another stone. It bears no trace of having been water worn. Though distinctly wedge shaped, it is much more oval in general form than the first mentioned specimen, and the shaft hole is in the centre of the implement. Length 7½ inches, and greatest breadth, which is across the top of the shaft hole 5 inches, thickness 2¾, and weight 7 lb. 3 oz.

We now come to the unperforated axes, 7 in number, and though as yet the collection of these is not at all so extensive as we could wish it, we are nevertheless fortunate in possessing an interesting variety. The first specimen is a beautifully wrought implement of granite, 7 inches long by 2¾ at its broadest part; weight, 1¾ lbs It is of oblong shape, broadening very slightly at the cutting edge, and tapering to a blunt point at the butt end. It is polished. Next the cutting edge, on each side, traces of the natural cleavage of the mineral are seen, not having been polished quite out, showing that a thin slab of rock had at first been selected. The specimen was acquired by purchase a year ago, and was found by a farmer in a peat moss a few miles north of Crieff

No. 2. The next is also from the Crieff district. It is one of the smaller axes of a type not infrequently met with. Made of claystone, it weighs half-a-pound. Of triangular shape, broadest at the cutting edge, and tapering to the butt but not to a point. The butt end of the axe is the only part of it that has not been worked. It was found by a ploughman sticking fast in his plough, and on extracting it part of the cutting edge has been broken off. The preserved portion shews that the implement has been worked to a very fine edge. These claystone axes, from the nature of the material, would be comparatively easy to grind down to an edge, and very probably the specimen has been reduced in size from this cause. It measures 2⅜ inches at the cutting edge and 1 inch at the butt. At the thickest part it measures about ⅜ of an inch.

No 3. The next specimen is from Glenlyon, Perthshire, also purchased. It also weighs half a pound, and is of the same material, and very similar in make to the last described specimen. It measures 2¼ inches at the cutting face, and 1½ inch at the butt end. Its greatest thickness about ¾ of an inch. This axe is polished in all its parts.

No. 4.—The next is a very similar implement just under half a pound in weight, also purchased from the Fowlis district of Perthshire, made of a more porous variety of the same material as the Nos. 2 and 3. It has also been polished, but unfortunately the farmer who

found it, with the idea of cleaning it, had the polish almost completely scraped off. Sufficient of the polished surface remains to prove the fact. It measures fully 2 inches at the cutting face and ¾ of an inch at the butt. Though all so very similar, the three axes show interesting differences in details of working. The cutting edges of each of the axes are different in the manner that the edges are worked up. In No. 2, the edges from the cutting face to the butt end are both worked off and rounded. In specimen No. 3 one of these edges is worked off and rounded as in No. 2, but the other is left with a square face and sharply defined edges. In specimen No. 4 both edges are left square with sharp edge lines. I don't think I could produce a better set of specimens to prove the necessity for having these collections as extensive as possible. The beauty of varieties is only seen in a good collection. There is a strange fascination for some people to keep single specimens of these and such things beside them as a sort of curiosity. Their preservation is so far good, but keeping them locked up in a drawer is utter folly. Though one often must buy them to possess them for the museum collection, they are really of no intrinsic value, and it is only when they are brought together as a collection for public edification that the purpose of their preservation is fulfilled. There must be a considerable number of interesting specimens of these implements found in our district and hid away uselessly in private repositories, and we can only hope that ere long their owners will see their way to put them to a better use.

A little of this spirit is beginning to grow into life, proof of which is seen in the two next specimens which have both been gifted to the collection. No. 5 is a beautiful specimen found on Milton Farm on the Braes of Doune, by Miss Margaret Liddell, daughter of the farmer there, and presented by her. Made of a hard, close-grained clay ironstone, it weighs almost 2 lbs. Its form is a most elegant pear shape and oval in section, length 8½ inches, greatest breadth almost 3 inches. It has been polished, but has been so long exposed to wind and weather that almost all trace of polish is gone, and the surface is a mass of scratches, evidently the result of contact with agriculture implements during the long course of years it had drifted about the field. It was found in a field of very thin, stony land, and the wonder is not that it lay so long, but that among so many thousands of its fellow stones it was ever noticed at all. One particularly rude shock from the

plough or harrow has broken a small bit out of one side from the cutting edge upwards. The general form of the implement is fortunately very little destroyed. It is a great pleasure to have to record the acquisition of such specimens as donations. It shows a general interest in the welfare of the Institute, which is specially gratifying, and gives indication of success in its mission as a public educator.

The next specimen, No. 6, is a very pretty axe in good preservation. It was ploughed up on Whitehouse farm a number of years ago, and handed to Mr Robert Miller, keeper of our rifle range, who presented it to our collection It also is a very hard, close grained claystone, polished, weighs 2 lb., oblong in form with a rounded cutting edge and trumcated butt-end, it measures 8 inch long, 2½ inch broad near the cutting edge, and 2 inch across at the butt, It is oval in section. Axes in the form of Nos. 5 and 6 are not of very common type.

No. 7 specimen is also from our carse clays, but further up the valley, having been ploughed up on Cardross Estate some years ago. It is of the same type as No 2, triangular in shape, 2½ inches broad at the cutting edge, and tapering to 1½ inches at the butt-end. It also is made of claystone of a soft variety, polished, and weighs half a pound. It is a little thinner, and consequently has a flatter appearance than the other three axes of similar type On the butt-end are a number of incised markings, made no doubt on the soft stone by the ploughboys knife who found it. It is further ornamented by a small hole near the butt end, a quarter of an inch in diameter, drilled nearly through, with a beginning made to drill from the opposite side. Curious to say, the drilling is exactly similar to that on the large heavy, instrument we have been looking at, and might give rise to discussion. Time is limited to-night, and I may as well rob you of the pleasure by informing you that, like as in the Fowlis specimen, this also is the work of the finder, who amused himself in the winter evenings drilling the hole with the ultimate intention of passing a string through it to hang it up by.

8. Through the kindness of Mr Shirra I am able to show another very good local specimen of the imperforated type of axe. It was found about 1823, on Greystail farm while draining was being carried out, Mr Shirra's grandfather being then tenant. It is well polished and made of greenstone. It is not so symmetrical as the other specimens, and to some extent retains the outline of the small boulder of

which it has most probably been formed. It is somewhat pyreform in general outline, with a rounded cutting edge, one side is flat, and on this side part of the rough surface of the stone is not quite polished out, the other side is well polished and concave; one of the edges from the cutting face to the butt is nearly straight, the other edge bulges in the centre and gives the axe a bellied appearance. It is, however, a well made and serviceable looking implement and a distinct variety from those I have shown you.

ADDITIONS TO THE BIRD LIST.

By James Sword.

From the Stone Age to our local Bird Collection is a very considerable bound, but this being our last meeting for the session, it seems well to keep the record up to date. Our reported list in last year's transactions being pretty exhaustive, we do not expect now to make long lists of additions. Two very interesting additions, however, have been made during the winter, and I show you the specimens. One, a specimen of the *Little Auk*, the other a *Waxwing*. Either of the birds would serve as subjects for interesting papers, but we must pass them rapidly. The press have kept us pretty well enlightened as to the distribution and destruction of this interesting little artic voyager, and the last number of the *Scottish Natural History Magazine* contained an excellent paper on the subject, by W. Eagle Clark, with relative map, showing the distribution of the birds, and an appendix giving the date, locality, and number of individual birds reported so far as these could be ascertained. Numerous as were the specimens recovered in our district, it was only after much enquiry, almost a forelorn hope, that a specimen was secured through Mr Kidston, the donor being Master George P. Connal-Rowan of Meiklewood. The bird was shot at Meiklewood, on 12th February, and the hearty thanks of this Society are due to our latest and youngest recruit in ornithology.

The Waxwing, also shown you, is a donation from Mr Wm. M'Clure, Ferntower, Crieff—Mr M'Clure is an old and generous donor—and was secured there by him on 23rd January last. The bird was in good condition, and had been feeding on "haws" or hawthorn berries. I have heard of no other specimen being noted in our neighbourhood, though three specimens are reported last week in the *Scottish*

Natural History Magazine from the south-east of Scotland. Yarrel, vol. I., gives a very interesting description of the bird.

I have seen during the winter a specimen of the Great Grey Shrike, which was shot on Touch, and a female Hen Harrier, shot near Port of Menteith. Both of these birds are in our list of "wanteds," but neither of the specimens mentioned have found their way to the local collection.

SUPPOSED PANIC ABOUT THE END OF THE WORLD IN 1000 A D.

By Rev J. M. Robertson, M.A.

Historic criticism has laid its unsparing hand on an accepted proposition concerning the medieval period Up to a very recent date it had been all but universally held that there prevailed throughout Christendom towards 1000 A D. an expectation of the end of the world, in fulfilment of Revelation xx. 7, that a general consternation seized mankind, and that the rise of the Crusades may be traced to the pilgrimages which were consequently made to the Holy Land, where it was imagined Christ would appear to judge the world. Doubt has now been cast on the existence of this somewhat confused belief and panic. Plaine, in a French historical review as far back as 1873, afterwards Rosières in 1878, and in 1883 Dr H. Von Eicken in his Forschungen zur deutschen Geschichte, have seriously challenged it. Be the merits of their inquiries and conclusions what they may, I have thought the subject sufficiently interesting and important from an archæological point of view to warrant its engaging our attention.

According to Rosières the story of the general fear of the end of the world in 1000 was first prominently related and invested with importance by Principal Robertson in his view of the state of Europe prefixed to the History of the Reign of Charles V. It thereafter found its way, with enlargements and additions, into the works of Sismondi and others. It has been repeated by church historians such as Gieseler and Hase, whose authority is justly held in high esteem, and it has naturally been adopted and clothed in fine language by the rank and file of professional bookmakers. On the other hand, Ranke, a most careful and accurate inquirer, is silent on the subject, so is Neander, and Giesbrecht expresses doubt as

to whether the panic was more than a limited and local one I may here mention that I find it alluded to in Fleury's "Mœurs des Chrétiens," published in 1662, so that Rosière's criticism cannot mean that Robertson first set the story afloat, but only that he brought it into connection with the great movements of the time. In any case it is certain that since Robertson's day historians have simply borrowed his theory and corresponding evidence, and that compilers of works meant for indiscriminate consumption, have garnished their narratives with descriptive seasoning far beyond what historical veracity justifies Thus, to give only one specimen, Proctor, in his "Myths and Marvels of Astronomy," unhesitatingly says, "The year 1000 A.D. was by all, with one consent, regarded as the date assigned for the end of the world. It was considered very wicked in the year 1000 to doubt that the end of all things was at hand." Historic research, however, knows only one rule of morality, regard for truth, and in simple deference to that rule those critics have acted whose investigations I am briefly to summarise.

The first argument led by Robertson and others in support of the pretended belief in the end of the world in 1000 A.D., is derived from the charters and deeds of gift which in the latter part of the tenth century begin in this manner, "Appropinquante mundi termino," "the end of the world being at hand." These are said to be numerous, but it must be noticed that none are cited or quoted at length. During the whole of the Middle Ages, both before and after the year 1000, gifts were bequeathed to the Church when the testators felt their sands of time running low, and their gifts ought, on the assumption that the belief in the coming end of the world was general, to have become still more numerous about that period; for then both old and young would, under fear of the world's dissolution, relinquish to God their earthly possessions. That is not the case, however, and it has been shown that so far as Germany is concerned the employment of the words "appropinquante mundi termino" is a pure and simple fiction. Nowhere was ecclesiastical authority greater than in West Germany, yet neither in the provinces of the lower nor of the middle Rhine has Dr Von Eicken found a single charter or document in which the expression, a. m. t., or similar expressions occur. The same omission holds good for all the charters relating to Frankfort, Spiers, Strasburg, Ulm, Bremen, Bavaria, and East Friesland. There

are many extant benefactions beginning "pro remedio animæ suæ"—"ad æternæ recompensationis premium"—none with "appropinquante mundi termino." Two exceptions occur which prove the rule. In the first half of the tenth century a widowed Duchess, Godilde, conveys certain properties to the Abbey of Echternach with the preface—"Humani generis termino appropinquante." Nothing shows that she had in her mind the end of the world in 1000 A.D., *i e*, fifty years after her bequest, or that she entertained any other reason for her use of the words than her own belief, not confined to the century in which she lived, that the present state of things would by and bye come to its termination. In France the expression "appropinquante mundi termino" does, indeed, frequently appear in ancient charters, but then, be it remembered, from as far back as the Merovingian kings—between the sixth and eighth centuries—and with varying frequency of usage till long after the 10th century, while it is sometimes replaced by clauses, such as—"Timeo casum humanæ fragilitatis"—"ne me repentina mors subripiat," and so forth, which indicate that the donors and testators had rather in view the brevity of of human life than the end of the world. So much, then, for the evidence derived from the terms of charters.

The next authentic reference is placed by Gieseler at the head of his notes on the subject (Vol. ii. Eccl, Hist., p. 392 Eng. trans). It is an extract from the Canons of the Council of Trosly, convened in 909. That Synod complained of the corruptions among the clergy, regarding which Heriveus, Archbishop of Rheims said—"The pastoral office is becoming an intolerable burden, since the moment is approaching when we must give an account of the trust confided to us, for the advent of that day is near when all shepherds along with their flocks will come before the face of the Eternal Shepherd." The address from which this quotation is made was delivered in 909. Will it be seriously contended that the speaker and his hearers were terrorised by an event they believed would happen almost a century afterwards? The allusion is to the day of judgement, and is evidently one which could be made at the present day.

The third supposed witness to the existence of the belief in the end of the world is Abbot Adson, of Mons Derveuse in Champagne, who, in 954, wrote a book entitled "Libellus de Antechristo." The writer says it was composed at the request of Queen Gerberge, who wished to know what Holy Scripture

taught regarding the Antechrist, and in it he combats the belief in the terrors attending the adversary's approach. The inference has been drawn that such a belief was then prevalent, but it is illegitimate. The pious Abbot was writing to a private person at her own request for the purpose of giving information on a subject in which she, like many religious people of our own day, was interested. Had the belief been a general one that Satan was soon to be loosed from his prison the author of the libellus would have embraced the opportunity of refuting it as a popular delusion. He does not do so and the very opposite presumption may therefore be entertained, viz., that no such belief prevailed. His last words are these, "I hold that no one knows what length of time shall intervene between antichrist and the judgement. It is at the disposal of God who shall judge men at that hour which He, from all eternity, has ordained."

I come now to the testimony of two preachers who flourished about 960, and who announced to their congregations that the world would shortly come to an end. If it can also be shown that their hearers shared their views it would be a fact of great significance in connection with the subject under discussion. This has not been and cannot be done. The first preacher was one named Bernhard who, according to the chronicle of Trithemius of Hirschgau, appeared at the diet of Würzburg from Thuringen, and declared "diem jamjam imminere extremum et mundum in brevi consummandum," and that, as we are told, he steadfastly affirmed was a thing which had been revealed to him by God, "idqne sibi revelatum a Deo. It will be observed that he made no mention of the year 1000, and that his proof was merely subjective, not founded on the Revelation of John but regarded a Divine communication to himself. The second preacher is described by Abbo, the Abbot of Fleury, who wrote an apologetic work to King Hugo (Hugh Capet) about 990. The Abbot is one of the authorities on whom Robertson relies. He is quoted at length in this connection by Gieseler, and referred to by Hase and all the other historians who cite the original sources. Here are his words, literally translated :—"I once heard a sermon preached about the end of the world in a church in Paris, to the effect that Antichrist would come when the thousand years were finished, which preaching I controverted with all my might from the Gospels, the Apocalypse, and the book of Daniel. The error which grew up regarding the end of the world my late Abbot Richard of blessed memory also opposed with his usual sagacity, and

ordered me to answer letters on the subject which he received from Lorraine. For a rumour had almost filled the whole earth that when the Lady's Day (25th March) and Good Friday should happen together, then without doubt the end of the world should have come (finis sæculi esset.)" On this passage one or two remarks may be pertinently made. First, while the preacher in Paris is reported to have predicted the end of the world at the end of the year 1000 he is neither said to have appealed to the 20th chapter of Revelations, nor to have addressed his words to a crowd of credulous listeners. On the contrary, the Abbot Abbo disbelieves him, and does not appear to have thought it worth his while to make any very strenuous or public effort to suppress the error, as he would have done had it been generally entertained. In the second place, the idea that the conjunction of Lady Day and Good Friday forebodes evil is one which still lingers even in our own country, as the rhyme—

> " When our Lord falls in our Lady's lap,
> Then England will meet with a mishap."

informs us. It could not certainly apply to the year 1000, but only to one of the following years:—908, 970, 992, and 1065 within the period under consideration. And even admitting that the belief in the end of the world in 1000 did secure a certain footing under the influence of such preachers as Abbot Abbo heard, all that must have happened some thirty or forty years prior to the anticipated catastrophe; since Abbot Richard, who, we learn, was too sagacious to give heed to such nonsense, died in 975, and Abbo narrates what happened some years before his death. Carefully and closely analyzed, then, the strongest piece of evidence in favour of the alleged belief appears to fall to pieces.

I proceed to another, but a weaker witness, also continually employed in defence of the position. He is a monkish chronicler named William Godwell, of Limoges, who is said by some to have written his book in 1150, by others in 1220—in either case from 150 to 200 years subsequent to the date in question. Godwell says with reference to the year 1010, " Fear and sorrow filled the hearts of very many throughout the world when the rumour went abroad (of the capture of Jerusalem by the Turks or Hungarians), and many supposed that the end of the world had come." As the year 1000 had, according to the chronicler, come and gone without alarm, and only in 1010 did the terrible Turks of Jerusalem fill men's minds with

dismay and dread of the world's end, I think we may reasonably conclude that the idea of a panic at the close of the thousand years finds no support, but rather the reverse, in his pages. The Hungarians had been thought to be Gog and Magog on their first appearance about 900. Still weaker and more worthless is the evidence which Gieseler brings forward from the Gesta Episcoporum Leodiensium, written about 1050, where it is related how Otto I.'s army in Calabria was terrified by an eclipse of the sun which happened in 968. Clearly the soldiers were not terrified by any supposed downfall of the world in the year 1000, but by the darkness of the eclipse of which they were spectators, causing them to believe, as many more in similar circumstances have believed, "nihil aliud quam diem judicii imminere."

I shall conclude the list of authorities on which the historians rely with one to whose evidence great weight has been attached. Radolph or Raoul Glaber—so-called because of his baldness — embraced the monastic profession about the age of twelve, and being of a restless, active spirit, changed from one monastery to another till he died at Cluny about 1060. Here he finished his history and dedicated it to the abbott, probably in 1044. It begins at 900, and takes in the four parts of the world—that is the whole Roman Empire as understood in his day. The narrative is a jumble of metaphysics, history, poetry and prose, and is frequently interrupted by subtle dissertations. It was published in 1596 in the "Recueil des Histoires de France," to which compilation Robertson is greatly indebted. Here is what he says bearing on the point before us, "It happened in 1003 that over all Christendom, but specially in Italy and Gaul, the principal churches were restored, although most of them did not require it, being in good condition. All people vied with one another who should have the finest churches. It seemed as if the world, stripping itself and shaking off its old rags, had put on here and there a white robe of churches." We must allow that these renewals of old churches took place. But what, we may ask, does this prove? What is the connection between zeal for church restoration and the fear of the end of the world? Can we conclude from the one to the other then, any more than now, when similar operations are everywhere the fashion? On the contrary, Glaber himself placed the end of the thousand years after Christ (not the end of the world) in 1033, counting, as he said, from the Passion of the Lord—"imminente igitur millesimo trigesimo tertio, idest a Passione Domini anno

millesimo" Assuming therefore, for argument's sake, that Glaber knew about and agreed with the belief in the end of the world at the close of the first thousand years after Christ, we should have this remarkable result—that immediately before the dreaded loosing of Satan churches were beautified and restored in anticipation of his arrival. And, in point of fact, we find many churches cathedrals, and religious houses dating their erection just at or about 1000, as for instance, the cathedral of Beauvais in 991, as if there were no uncertainty in the minds of their builders as to the continuance of their day of grace and their future need of religious ordinances.

I have now reviewed every part, without exception, of the positive proof in support of the idea that in 1000 A D. there prevailed a universal panic that the end of the world was at hand.

Only one point remains to be emphasised—the negative evidence. None of the chroniclers of the centuries immediately succeeding the tenth, men of indomitable industry in their profession, make the least allusion to the alleged panic. Plaine names them, and tells us where to find them for verification of his statements. They are—Sigebert of Gemblaux, in 1112; Vincent of Beauvais, the first encyclopedist, in 1260; Rollevinck, in 1480. He considers that Trithemius, who flourished from 1462 to 1516, is the earliest who affirms regarding the year 1000, that men then feared the last day was come. Five centuries, however, separate him from that year.

Then, as to the records and documents in the archives of incorporations throughout England, Germany, France, and Italy, they are entirely silent regarding the year 1000, except the great Cologne register, where it is recorded that in the preceding year Archbishop Evegerus died, and was succeeded by Heribert. That is all No special services, masses, or prayers, preparatory to the advent of the awful year 1000 in "the city of monks and bones."

Not only should we expect to find, what we do not find, some indications of the importance of the year 1000 in the public annals of the period, but also in the decrees of Councils and Papal Bulls. But what is the case? From 950 to 1001 we light on the decisions of prelates in regard to questions of ecclesiastical discipline; the Synod held at Rome in 998 is greatly exercised about heretics and heresies; the council of Poitiers in 999 dealt with the punishments due to irreverent offenders against morality; but of disquiet

and alarm over the approaching end of the world they utter not a word. In our own country where there was also prodigality in building abbeys and churches, "the merry laws" even were passed in the national council in Wales 970. In the nine bulls of Pope Gregory from 996 to 999, and the seven of Sylvester II., from 999 to 1003, we look in vain for any hint or reference to the solemn event. They all, without exception, relate to the bestowal or confirmation of certain ecclesiastical rights and privileges.

Impartial criticism has therefore arrived at the conclusion that the supposition of Christendom at the close of the tenth century being filled with consternation because of the approaching end of the world is absolutely unfounded. At the very most there is only evidence of the same fear of the last day as has always haunted timid and pious minds. It would be both instructive and amusing—did time permit—to follow up that result with a reproduction of passages from our ordinary historians, who have, in all good faith and honesty, echoed each other's assumptions as accounts of unquestionable fact, adding, at the same time, touches of their own, and casting what they conceived to be the hard and dry core of historic truth into picturesque and graceful forms of literary expression. I must refer this pleasing, cynical exercise to those who can afford leisure for it. Meanwhile, I take leave to say that it seems to me the critics have proved their case and pricked one more glowing bubble in the historical field.

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